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# 31 CFR Part 356

## Sale and Issue of Marketable Book-Entry Treasury Bills, Notes and Bonds

*Department of the Treasury Circular,  
Public Debt Series No. 1-93*

**PART 356—SALE AND ISSUE OF  
MARKETABLE BOOK-ENTRY  
TREASURY BILLS, NOTES, AND  
BONDS (DEPARTMENT OF THE  
TREASURY CIRCULAR, PUBLIC  
DEBT SERIES NO. 1-93)**

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## § 356.0

AUTHORITY: 5 U.S.C. 301; 31 U.S.C. 3102, *et seq.*; 12 U.S.C. 391.

SOURCE: 58 FR 414, Jan. 5, 1993, unless otherwise noted.

### Subpart A—General Information

#### § 356.0 Authority for sale and issue.

The Secretary of the Treasury is authorized under chapter 31 of title 31, United States Code, to issue United States obligations and to offer them for sale under such terms and conditions as the Secretary may prescribe.

#### § 356.1 Applicability.

Unless otherwise specified in an offering announcement, the provisions in this part, including the appendices, govern the sale and issuance of all marketable Treasury securities and any other obligations issued by the Secretary that, by the terms of the offering announcement, are made subject to this part.

#### § 356.2 Definitions.

In this part, unless the context indicates otherwise:

*Accrued interest* means an amount payable to the Department for such part of the next semiannual interest payment that represents interest income attributed to the period prior to the date of issue. (See appendix B, section I, paragraph C.)

*Adjusted value* means, for an interest component stripped from an inflation-indexed security, an amount derived by multiplying the semiannual interest rate by the par amount and then multiplying this value by 100 divided by the Reference CPI of the original issue date (or dated date, when the dated date is different from the original issue date). (See Appendix B, Section IV to this part, for an example of how to calculate the adjusted value for interest components stripped from an inflation-indexed security.)

*Auction* means a bidding process by which the Department sells marketable Treasury securities to the public.

*Autocharge agreement* means a written agreement between a submitter and a depository institution or between a clearing corporation and a depository institution, acknowledged by a Federal Reserve Bank, which authorizes a Fed-

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eral Reserve Bank to deliver securities awarded at auction to the book-entry account of the depository institution or, when authorized, to a TREASURY DIRECT account, and to charge a funds account of the depository institution for the settlement amount of the securities. (See exhibit B for a sample autocharge agreement between a submitter and a depository institution.)

*Bid* means an offer to purchase a stated par amount of securities, either competitively or noncompetitively, in an auction. An offer to purchase a stated par amount of securities submitted by a depository institution or dealer to fulfill a guarantee to sell a specified amount of securities at an agreed-upon price or a price fixed in terms of an agreed-upon standard is a bid of the depository institution or dealer and not a bid of a customer.

*Bidder*, as further defined in appendix A, means a person or an entity that bids either directly or through an entity authorized to submit bids for customers in an auction. In some cases, two or more persons or entities are considered to be one bidder based on their relationship or their actions in participating in an auction.

*Bid-to-cover ratio* means the total par amount of securities bid for by the public divided by the total par amount of securities awarded to the public. The bid-to-cover ratio excludes any bids or awards for the account of the Federal Reserve Banks.

*Book-entry security* means a security the issuance and maintenance of which are represented by an accounting entry or electronic record and not by a certificate. Treasury book-entry securities may generally be held in either TRADES or in TREASURY DIRECT. (See § 356.3.)

*Business day* means any day other than a Saturday, Sunday, or other day on which the Federal Reserve Banks are not open for business.

*Call* means the redemption, pursuant to the terms specified in its offering announcement, of a security, in whole or in part, prior to maturity, at the option of the Secretary.

*Clearing corporation* means a clearing agency as defined in Section 3 of the Securities Exchange Act of 1934 (15 U.S.C. 78c(a)(23)) that is registered with

the Securities and Exchange Commission pursuant to Section 17A of the Securities Exchange Act of 1934 and the rules thereunder.

*Competitive bid* means a bid to purchase a stated par amount of securities at a specified yield or discount rate.

*Consumer Price Index* (CPI) means the monthly non-seasonally adjusted *U.S. City Average All Items Consumer Price Index for All Urban Consumers*, published by the Bureau of Labor Statistics of the Department of Labor. (See appendix D.)

*Corpus* means the principal component of a stripped security and future callable semiannual interest payments, if any.

*CUSIP* means Committee on Uniform Securities Identification Procedures.

*CUSIP number* means the unique identifying number assigned to each separate security issue and each separate STRIPS component. CUSIP numbers are provided by the CUSIP Service Bureau of Standard & Poor's Corporation.

*Customer* means a bidder on whose behalf a depository institution or dealer has been directed to submit or forward a competitive or noncompetitive bid for a specified amount of securities in a specific auction. Only depository institutions and dealers may submit or forward bids for customers, whether directly to a Federal Reserve Bank or the Bureau of the Public Debt, or through an intermediary depository institution or dealer.

*Daily interest decimal* means, for a fixed-principal security, the interest factor attributable to one day of an interest payment period per \$1,000 par amount.

*Dated date* means the date from which interest accrues. The dated date and issue date are the same except when the date from which interest accrues is prior to the issue date.

*Dealer* means an entity that is registered or has given notice of its status as a government securities broker or government securities dealer, pursuant to Section 15C(a)(1) of the Securities Exchange Act of 1934.

*Delivery and payment agreement* means a written agreement between a clearing corporation and a submitter, acknowledged by a Federal Reserve Bank, authorizing the Federal Reserve

Bank, with respect to securities awarded to the submitter for its own account, to deliver such securities to, and accept payment from, a depository institution acting on behalf of the clearing corporation pursuant to an acknowledged autocharge agreement.

*Department* means the United States Department of the Treasury.

*Depository institution* means:

(1) An entity described in section 19(b)(1)(A), excluding subparagraph (vii), of the Federal Reserve Act (12 U.S.C. 461(b)(1)(A)). Under section 19(b)(1)(A) of the Federal Reserve Act, the term *depository institution* includes:

(i) Any insured bank as defined in 12 U.S.C. 1813 or any bank which is eligible to make application to become an insured bank under 12 U.S.C. 1815;

(ii) Any mutual savings bank as defined in 12 U.S.C. 1813 or any bank which is eligible to make application to become an insured bank under 12 U.S.C. 1815;

(iii) Any savings bank as defined in 12 U.S.C. 1813 or any bank which is eligible to make application to become an insured bank under 12 U.S.C. 1815;

(iv) Any insured credit union as defined in 12 U.S.C. 1752 or any credit union which is eligible to make application to become an insured credit union under 12 U.S.C. 1781;

(v) Any member as defined in 12 U.S.C. 1422; and

(vi) Any savings association (as defined in 12 U.S.C. 1813) which is an insured depository institution (as defined in the Federal Deposit Insurance Act, 12 U.S.C. 1811, *et seq.*) or is eligible to apply to become an insured depository institution under such Act.

(2) Any agency or branch of a foreign bank as defined by the International Banking Act of 1978, as amended (12 U.S.C. 3101).

*Discount* means the difference between par and the price of the security, when the price is less than par.

*Discount amount* means the discount divided by 100 and multiplied by the par amount.

*Discount rate*, also referred to as "bank discount rate," means an annualized rate of return to maturity on bills, expressed in percentage terms and based on a 360-day year. (See appendix B for formulas and examples.)

*Federal Reserve Bank* means a Federal Reserve Bank or a branch of a Federal Reserve Bank.

*Funds account* means a cash account maintained by a depository institution at a Federal Reserve Bank.

*Index* means the Consumer Price Index, which is used as the basis for making adjustments to principal amounts of inflation-indexed securities. (See appendix D.)

*Index ratio* means, for any particular date and any particular inflation-indexed security, the Reference CPI applicable to such date divided by the Reference CPI applicable to the original issue date (or dated date, when the dated date is different from the original issue date). (See appendix B, section I, paragraph B.)

*Inflation-adjusted principal* means, for an inflation-indexed security, the value of the security derived by multiplying the par amount by the applicable index ratio as described in appendix B, section I, paragraph B.

*Interest rate* means the annual percentage rate of interest paid on the par amount or the inflation-adjusted principal of a specific issue of notes or bonds. (See appendix B for methods and examples of interest calculations on notes and bonds.)

*Intermediary* means a depository institution or dealer that forwards bids for customers to another depository institution or dealer and not directly to a Federal Reserve Bank or the Bureau of the Public Debt.

*Investment adviser* means any person or entity that has investment discretion for the bids or positions of a person or entity not considered part of the investment adviser under the bidder definitions in Appendix A of this part. Investment discretion includes determining what, how many, and when securities shall be purchased or sold. A person or entity managing investments for itself is not considered an investment adviser for such investments. Where a person is employed or supervised by an entity in connection with his activities as an investment adviser, such person is considered to be part of that entity.

*Issue date* means the date specified in the offering announcement on which a security is issued as an obligation of

the United States, and from which interest normally begins to accrue.

*Marketable security* means a security that is negotiable and transferable, i.e., may be bought and sold in the secondary market.

*Maturity date* means the date specified in the offering announcement on which a security becomes due and payable, and ceases to earn interest.

*Minimum to hold* means the smallest amount of a security that will be issued to a bidder and may be held in any book-entry account. Unless otherwise stated in the offering announcement, the minimum to hold is the same as the minimum bid amount given in the offering announcement.

*Multiple-price auction* means an auction in which each successful competitive bidder pays the price equivalent to the yield or rate that it bid.

*Multiple to hold* means the smallest additional amount of a security that will be issued to a bidder and may be held in any book-entry account above the minimum to hold. Unless otherwise stated in the offering announcement, the multiple to hold is the same as the multiple to bid amount given in the offering announcement.

*Noncompetitive bid* means, for a single-price auction, a bid to purchase securities at the highest yield or discount rate of awards to competitive bidders. For a multiple-price auction, a noncompetitive bid means a bid to purchase securities at the weighted average yield or discount rate of awards to competitive bidders.

*Offering amount* means the par amount of securities offered to the public for purchase in an auction, as specified in the offering announcement.

*Par* means a price of 100. (See appendix B.)

*Par amount* means the stated value of a security at original issuance.

*Person* means a natural person.

*Premium* means the difference between par and the price of the security, when the price is greater than par.

*Premium amount* means the premium divided by 100 and multiplied by the par amount.

*Price* means the price of a security as calculated using the formulas in appendix B.

*Real yield* means, for an inflation-indexed security, the yield based on the payment stream in constant dollars, i.e., before adjustment by the index ratio.

*Reference CPI* (Ref CPI) means, for an inflation-indexed security, the index number applicable to a given date. (See appendix B, section I, paragraph B.)

*Reopening* means the auction of an additional amount of an outstanding security.

*Secretary* means Secretary of the Treasury.

*Security* means a Treasury bill, note, or bond, each as described in this part, and any other obligation issued by the Secretary that, by the terms of the applicable offering announcement, is made subject to this part. Security includes an interest or principal component under the STRIPS program (see below).

*Settlement* means final and complete payment for securities awarded in an auction.

*Settlement amount* means the par amount of securities awarded less any discount amount and plus any premium amount and/or any accrued interest. For inflation-indexed securities, the settlement amount also includes any inflation adjustment when such securities are reopened or when the dated date is different from the issue date.

*Single-price auction* means an auction in which all successful bidders pay the same price regardless of the yields or rates they each bid.

*STRIPS* (Separate Trading of Registered Interest and Principal of Securities) means the Department's program under which eligible securities are authorized to be separated into principal and interest components, and transferred separately. These components are maintained in book-entry accounts, and transferred, in TRADES.

*Submitter* means the person or entity submitting bids directly to a Federal Reserve Bank or the Bureau of the Public Debt for its own account, for the account of others, or both. The only submitters that are permitted to submit bids for the account of others are depository institutions and dealers.

*Tender* means the document or computer transmission submitted to a Federal Reserve Bank or the Bureau of the

Public Debt by which a bidder bids for securities.

*TINT* means an interest component from a stripped security.

*TRADES* means the Treasury/Reserve Automated Debt Entry System.

*TREASURY DIRECT* means the TREASURY DIRECT Book-Entry Securities System. (See 31 CFR part 357, subpart C.)

*Weighted average* means the average of the yields or discount rates at which securities are awarded to competitive bidders weighted by the par amount of securities allotted at each yield or discount rate.

*Yield*, also referred to as "yield to maturity," means the annualized rate of return to maturity on a fixed-principal security expressed as a percentage. For an inflation-indexed security, yield means the real yield. (See appendix B.)

[58 FR 414, Jan. 5, 1993, as amended at 59 FR 28774, June 3, 1994; 60 FR 13907, Mar. 15, 1995; 61 FR 37010, July 16, 1996; 61 FR 43637, Aug. 23, 1996; 62 FR 850, Jan. 6, 1997; 62 FR 25114, May 8, 1997; 63 FR 35783, June 30, 1998; 64 FR 3634, Jan. 25, 1999; 67 FR 68516, Nov. 12, 2002]

### § 356.3 Book-entry securities and systems.

Securities issued subject to this part shall be held and transferred in either of the two book-entry securities systems—TRADES or TREASURY DIRECT—described in this section. Securities are maintained and transferred, to the extent authorized in 31 CFR part 357, in these two book-entry systems at their par amount, e.g., for inflation-indexed securities, adjustments for inflation will not be included in this amount. Securities may be transferred from one system to the other in accordance with Treasury regulations governing book-entry Treasury bills, notes, and bonds. See Department of the Treasury Circular, Public Debt Series No. 2-86, as amended (31 CFR part 357).

(a) *Treasury/Reserve Automated Debt Entry System (TRADES)*. TRADES is established, maintained and operated by the Federal Reserve Banks acting as

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fiscal agents of the United States, pursuant to 12 U.S.C. 391. The Federal Reserve Banks maintain book-entry accounts for themselves, depository institutions, and other authorized entities, such as government and international agencies and foreign central banks. In their accounts, depository institutions maintain securities held for their own account and for the accounts of others, including other depository institutions and dealers, which may, in turn, maintain accounts for others. For accounts maintained in TRADES, Treasury discharges its payment obligations when payment is credited to the applicable account maintained at a Federal Reserve Bank or payment is made in accordance with the instructions of the person or entity maintaining such account. Further, neither Treasury nor the Federal Reserve Banks have any obligations to, nor will they recognize any claims of, any person or entity that does not have an account at a Federal Reserve Bank. In addition, neither Treasury nor the Federal Reserve Banks will recognize the claims of any person or entity with respect to any accounts not maintained at a Federal Reserve Bank.

(b) **TREASURY DIRECT.** TREASURY DIRECT is a system in which the book-entry securities of account holders are identified and maintained directly on the records of the Bureau of the Public Debt, Department of the Treasury. In TREASURY DIRECT, Treasury discharges its payment obligations when payment is made to a depository institution for credit to the account specified by the owner of the security, or when payment is made in accordance with the instructions of the owner of the security.

[58 FR 414, Jan. 5, 1993, as amended at 61 FR 43637, Aug. 23, 1996; 62 FR 850, Jan. 6, 1997]

#### § 356.4 Functions of Federal Reserve Banks.

Federal Reserve Banks, as fiscal agents of the United States, are authorized to perform all activities necessary to carry out the provisions of this part, any offering announcements, and applicable regulations.

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#### § 356.5 Description of securities.

Securities offered pursuant to this part are offered exclusively in book-entry form and are direct obligations of the United States, issued under chapter 31 of title 31 of the United States Code. The securities are subject to the terms and conditions set forth in this part, including the appendices, as well as the regulations governing book-entry Treasury bills, notes, and bonds (31 CFR part 357), and the offering announcements, all to the extent applicable. When the Department issues additional securities with the same CUSIP number as outstanding securities, all securities with the same CUSIP number are considered the same security.

(a) *Treasury bills.* Treasury bills are issued at a discount, are redeemed at their par amount at maturity, and have maturities of not more than one year.

(b) *Treasury notes*—(1) *Treasury fixed-principal<sup>1</sup> notes.* Treasury fixed-principal notes are issued with a stated rate of interest to be applied to the par amount, have interest payable semiannually, and are redeemed at their par amount at maturity. They are sold at discount, par, or premium, depending upon the auction results. They have maturities of at least one year, but not more than ten years.

(2) *Treasury inflation-indexed notes.* Treasury inflation-indexed notes are issued with a stated rate of interest to be applied to the inflation-adjusted principal on each interest payment date, have interest payable semiannually, and are redeemed at maturity at their inflation-adjusted principal, or at their par amount, whichever is greater. They are sold at discount, par, or premium, depending upon the auction results. They have maturities of at least one year, but not more than ten years. (See appendix B for price and interest payment calculations and appendix C for Investment Considerations.)

<sup>1</sup>The term “fixed-principal” is used in this part to distinguish such securities from “inflation-indexed” securities. Fixed-principal notes and fixed-principal bonds are referred to as “notes” and “bonds” in official Treasury publications, such as offering announcements and auction results press releases, as well as in auction systems.

(c) *Treasury bonds*—(1) *Treasury fixed-principal bonds*. Treasury fixed-principal bonds are issued with a stated rate of interest to be applied to the par amount, have interest payable semiannually, and are redeemed at their par amount at maturity. They are sold at discount, par, or premium, depending upon the auction results. They typically have maturities of more than ten years.

(2) *Treasury inflation-indexed bonds*. Treasury inflation-indexed bonds are issued with a stated rate of interest to be applied to the inflation-adjusted principal on each interest payment date, have interest payable semiannually, and are redeemed at maturity at their inflation-adjusted principal, or at their par amount, whichever is greater. They are sold at discount, par, or premium, depending upon the auction results. They typically have maturities of more than ten years. (See appendix B for price and interest payment calculations and appendix C for Investment Considerations.)

[58 FR 414, Jan. 5, 1993, as amended at 62 FR 851, Jan. 6, 1997]

## Subpart B—Bidding, Certifications, and Payment

### § 356.10 Offering announcement.

The Department provides public notice of the sale of bills, notes, and bonds by issuing an offering announcement. The offering announcement lists the specifics of each offering, e.g., offering amount, term and type of security, CUSIP number, and issue and maturity dates. The offering announcement and this part, including the Appendices, specify the terms and conditions of sale. To the extent that the provisions of an offering announcement are inconsistent with the provisions of this part, the provisions of the offering announcement will control. Accordingly, bidders should read the applicable offering announcement in conjunction with this part. (See Exhibit A for sample announcements.)

[58 FR 414, Jan. 5, 1993, as amended at 62 FR 851, Jan. 6, 1997]

### § 356.11 Submission of bids.

(a) *General*. (1) Bids may be submitted directly to a Federal Reserve Bank that is authorized to accept tenders or to the Bureau of the Public Debt, Washington, DC, or through a depository institution or dealer that is authorized, pursuant to § 356.14, to submit bids on behalf of customers. Except as otherwise provided, tenders must be submitted in an approved format, including the use of preassigned identification numbers, where applicable. Competitive and noncompetitive bids must be received prior to the respective closing times specified in the offering announcement, except as provided in paragraph (b)(2) of this section. Bids not received timely will not be recognized in the auction. Bids for securities are binding on the bidder after the closing time specified in the offering announcement.

(2) If the awarded securities are to be issued in TRADES, a submitter must have on file at a Federal Reserve Bank a certificate listing those persons who are authorized to submit tenders on its behalf. The certificate must be duly executed by an authorized person on behalf of the submitter. A tender will not be recognized if the person submitting the tender is not listed on the certificate. The submitter is responsible for any tenders submitted for the submitter by persons who are designated on the certificate as authorized to submit tenders on its behalf.

(b) *Submission of paper tenders*. (1) Paper tenders should be on preprinted forms provided by the Federal Reserve Bank to which the tender is submitted or preprinted forms of the Bureau of the Public Debt, and should provide the information requested on the form. Paper tenders in any other form or incomplete tenders may be accepted or rejected at the option of the Department.

(2) For competitive bids, if securities are to be delivered to more than one account, a separate paper tender must be submitted for each delivery instruction specified.

(3) The submitter is responsible for ensuring that the paper tender is received timely at the Federal Reserve Bank or the Bureau of the Public Debt, Washington, DC. A noncompetitive bid



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is considered timely if received prior to the deadline for the receipt of noncompetitive tenders. Further, a noncompetitive bid received after the deadline for the receipt of noncompetitive tenders is considered timely only if it was submitted by mail and only if the envelope containing the tender bears a U.S. Postal Service cancellation date prior to the auction date and the tender is received on or before the issue date.

(4) Neither the Federal Reserve Bank nor the Department shall be, in any way, responsible for any unauthorized paper tender submissions or for any delays, errors, or omissions in the submission of paper tenders.

(c) *Submission of tenders by computer.* Competitive and noncompetitive tenders may be submitted by computer transmission to a Federal Reserve Bank. Tenders may be submitted by computer only by those submitters that have previously arranged with a Federal Reserve Bank for such submission.

(1) For computer tenders, the submitter must comply with computer communications and electronic access standards and requirements for Treasury auctions. Incomplete tenders or transmissions that do not comply with such standards and requirements may be accepted or rejected at the option of the Department.

(2) All tenders submitted by computer are binding on the submitter to the same extent as if they had been paper tenders. No paper tender should be submitted that duplicates a tender submitted by computer.

(3) Tenders submitted by computer must be received by the applicable closing time; the Federal Reserve Bank's computer time stamp will establish the time of receipt.

(4) The submitter bears sole risk for any disruption or failure in the operation of its own computer, any electronic-based communications facilities, or any communications lines between the submitter and the Federal Reserve Bank.

(5) The submitter is responsible for tenders submitted using computer equipment on its premises, whether or not such tenders are authorized.

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(6) Neither the Federal Reserve Bank nor the Department shall be, in any way, responsible for any delays, errors, or omissions in the submission of tenders.

[58 FR 414, Jan. 5, 1993, as amended at 59 FR 28774, June 3, 1994; 61 FR 37010, July 16, 1996; 61 FR 43637, Aug. 23, 1996]

### § 356.12 Noncompetitive and competitive bidding.

(a) *General.* All bids, including bids for reopenings, must state the par amount of securities bid for and must equal or exceed the minimum bid amount stated in the offering announcement. Bids that exceed the minimum bid amount must be in the multiple stated in the offering announcement.

(b) *Noncompetitive.* A bidder bidding competitively for its own account may not bid noncompetitively for its own account in the same auction. A request for reinvestment of securities maturing in TREASURY DIRECT is a noncompetitive bid.

(1) *Maximum bid.* A bidder may not bid noncompetitively for more than \$1 million in a bill auction or more than \$5 million in a note or bond auction. The maximum bid limitation does not apply to bidders who are bidding solely through TREASURY DIRECT reinvestment requests.

(2) *Additional restrictions.* Between the date of the offering announcement and the time of the official announcement by the Department of the auction results, a noncompetitive bidder may not hold, at any time, a position for its own account in when-issued trading or in futures or forward contracts in the security being auctioned or enter into any agreement to purchase or sell or otherwise dispose of the securities it is acquiring in the auction. For purposes of this paragraph, futures contracts include those:

(i) That require delivery of the specific security being auctioned;

(ii) For which the security being auctioned is one of several securities that may be delivered; or

(iii) That are cash-settled.

(c) *Competitive.* A bidder bidding noncompetitively for its own account may not bid competitively for its own account in the same auction.

(1) Bid format—(i) Treasury bills. A competitive bid must show the discount rate bid, expressed with three decimals in .005 percent increments. The third decimal must be either a zero or a five, e.g., 5.320 or 5.325. Fractions may not be used.

(ii) *Treasury fixed-principal securities*. A competitive bid must show the yield bid, expressed with three decimals, e.g., 4.170. Fractions may not be used.

(iii) *Treasury inflation-indexed securities*. A competitive bid must show the real yield bid, expressed with three decimals, e.g., 3.070. Fractions may not be used.

(2) Maximum recognized bid. There is no limitation on the maximum dollar amount that a bidder may bid for competitively, either at one yield or discount rate, or at different yields or discount rates. However, a competitive bid at a single yield or discount rate that exceeds 35 percent of the offering amount will be reduced to that amount. For example, if the offering amount is \$10 billion, the maximum bid amount that will be recognized at any one yield or discount rate from any bidder is \$3.5 billion. (See § 356.22 for award limitations.)

[58 FR 414, Jan. 5, 1993, as amended at 60 FR 13907, Mar. 15, 1995; 62 FR 851, Jan. 6, 1997; 62 FR 32033, June 12, 1997; 62 FR 43093, Aug. 12, 1997; 63 FR 4187, Jan. 28, 1998; 67 FR 68516, Nov. 12, 2002]

#### § 356.13 Net long position.

(a) *Reporting net long positions*. When bidding competitively, a bidder must report the amount of its net long position when the total of all of its bids in an auction plus the bidder's net long position in the security being auctioned equals or exceeds the net long position reporting threshold amount. The net long position reporting threshold amount for any particular security will be stated in the offering announcement for that security. (See § 356.10.) That amount will be 35 percent of the offering amount, unless otherwise stated in the offering announcement. If the bidder either has no position or has a net short position and the total of all of its bids equals or exceeds the net long position reporting threshold amount, a net long position of zero must be reported. In cases where a bid-

der that is required to report the amount of its net long position has more than one bid, the bidder's total net long position should be reported in connection with only one bid. A bidder that is a customer must report its reportable net long position through only one depository institution or dealer. (See § 356.14(c).)

(b) *Determination of net long position*.

(1) The net long position must be determined as of the designated reporting time, which is one-half hour prior to the closing time for receipt of competitive bids. Except as modified in (b)(2) in the event of a reopening, a net long position includes the par amount of:

(i) Holdings of outstanding securities with the same CUSIP number as the security being auctioned;

(ii) Holdings of STRIPS principal components of the security being auctioned; and

(iii) Positions, in the security being auctioned, in

(A) When-issued trading, including when-issued trading positions of the STRIPS principal components;

(B) Futures contracts that require delivery of the specific security being auctioned (but not futures contracts for which the security being auctioned is one of several securities that may be delivered, and not futures contracts that are cash-settled); and

(C) Forward contracts that require delivery of the specific security being auctioned or of the STRIPS principal component of that security.

(2) In a reopening (i.e., additional issue) of an outstanding security, a bidder may subtract the published exclusion amount for that security from: its holdings of the outstanding securities (paragraph (b)(1)(i) of this section) combined with its holdings of STRIPS principal components of the security being auctioned (paragraph (b)(1)(ii) of this section). The amount of holdings that may be excluded from the net long position calculation will be specified in the Treasury offering announcement for that auction. A bidder may not take the exclusion if its combined holdings are zero or less than zero. The exclusion is optional for bidders. However, if a bidder takes the exclusion, it must include any holdings in excess of the exclusion amount in calculating its

net long position. If the published exclusion amount is greater than the bidder's combined holdings (paragraphs (b)(1)(i) and (ii) of this section), the combined holdings may be calculated as zero, but cannot be included in the calculation as a negative number.

[58 FR 414, Jan. 5, 1993, as amended at 62 FR 25115, May 8, 1997; 62 FR 43093, Aug. 12, 1997; 66 FR 56761, Nov. 13, 2001; 67 FR 68516, Nov. 12, 2002]

**§ 356.14 Submitting bids for customers.**

Depository institutions and dealers may submit bids for their own account, for their customers, or for customers of intermediaries, subject to the requirements set out in paragraphs (a), (b), and (c) of this section. Others are permitted to submit bids only for their own account.

(a) *Payment.* By submitting a bid on behalf of its customer or a customer of any intermediary, a submitter agrees to remit payment for securities awarded as a result of such bid.

(b) *Customer lists.* A customer list must be submitted or be available, as provided in paragraphs (b) (1), (2) and (3), whenever bids for more than one customer are included on the same tender. The customer list must include direct customers of the submitter as well as customers of any intermediaries who are forwarding customer bids to the submitter.

(1) For competitive bids submitted by paper tender, the submitter must provide a separate tender for each yield or discount rate at which a bid is submitted. As a part of such tender, the submitter must provide a list that includes the full name of each customer and the amount bid by each customer. For competitive bids submitted by computer, the submitter may submit bids at multiple yields or discount rates on the same tender. On each such tender, the submitter must submit the full name of each customer and the amount bid at each yield or discount rate by each customer.

(2) For noncompetitive bids, a list must be provided that includes the full name of each customer and the amount bid by each customer. For mailed tenders, the customer list must be submitted with the tender. For other than mailed tenders, the customer list

should accompany the tender. If the customer list is not submitted with the tender, information for the list must be complete and available for review by the deadline for submission of non-competitive tenders, and must be received by the Federal Reserve Bank to which the tender was submitted by close of business on the auction day.

(3) Bids submitted on behalf of trusts or other fiduciary estates must identify on the customer list the full name or title of the trustee or fiduciary; a reference to the document creating the trust or fiduciary estate with date of execution; and the employer identification number of the trust or fiduciary estate.

(c) *Net long position of customers.* (1) A submitter or intermediary, when submitting or forwarding a competitive bid of \$100 million or more for its customer, must inform that customer of the customer's net long position reporting obligation as described in § 356.13.

(2) A submitter or intermediary, when submitting or forwarding a competitive bid for a customer, must report the net long position amount if such amount is provided by the customer.

(3) If personnel of a submitter or intermediary who are directly involved in receiving or forwarding a customer's bid know that the position information provided by a customer is incorrect, the customer's bid shall not be submitted or forwarded by the submitter or intermediary.

(4) If the amount of a customer's net long position is to be reported by the submitter by paper tender, a separate tender must be submitted for that customer that includes the amount of the net long position.

**§ 356.15 Bidding through investment advisers.**

(a) *General.* Where bids or positions of a person or entity are controlled by an investment adviser, such bids or positions are considered to be a controlled account, separate from the bids and positions of any person or entity with which they would otherwise be associated under the bidder definitions in appendix A of this part. The investment adviser may bid for controlled accounts

by including, in a bid in the adviser's name, amounts that it is investing for the controlled accounts. The investment adviser may also bid for controlled accounts in the names of such accounts. Where bids are in an investment adviser's name, the investment adviser is considered the bidder for such bids and, where bids are in the name of a controlled account, the named controlled account is considered the bidder, for all purposes of this part 356, except as specified in this § 356.15.

(b) *Noncompetitive and competitive bidding.* Regardless of whether the bid for a controlled account is in the name of the investment adviser or in the name of the controlled account, such account may not be bid for both noncompetitively and competitively in the same auction. In addition, such account is subject to the noncompetitive bidding restrictions and award limitations contained in §§ 356.12(b) and 356.22(a).

(c) *Reporting net long positions.* In calculating the amount of its bids and positions for purposes of the net long position reporting requirement found in § 356.13(a), the investment adviser must include, in addition to what would otherwise be included for the investment adviser as a bidder under the bidder definitions, all other competitive bids and positions controlled by the investment adviser. The investment adviser may exclude any net long position less than \$100 million of any nonproprietary controlled account unless the adviser is placing a competitive bid for that account either in the name of the investment adviser or in the name of the account. However, if any net long position less than \$100 million of any nonproprietary account not being bid for is excluded, then all net short positions less than \$100 million of nonproprietary accounts not being bid for must also be excluded. Regardless of whether the investment adviser bids in its own name or in the name of its controlled accounts, if the net long position is reportable, it must be reported as a total in connection with only one bid in accordance with § 356.13(a).

(d) *Submitting bids for controlled accounts.* Notwithstanding the definition of submitter found in § 356.2, and the restriction against submitting bids for others found in § 356.14, an investment

adviser may submit bids, whether in the adviser's own name or in the names of its controlled accounts, directly to a Federal Reserve Bank or the Bureau of the Public Debt, in which case the investment adviser is considered a submitter. In the alternative, the investment adviser may forward such bids to a depository institution or dealer.

(e) *Certifications.* By bidding for a controlled account, an investment adviser is deemed to have certified that it is in compliance with this part and the offering announcement governing the sale and issue of the security. Further, the investment adviser is deemed to have certified that the information provided on the tender or provided to a submitter or intermediary with regard to bids for controlled accounts is accurate and complete.

(f) *Proration of awards.* In auctions where bids at the highest accepted yield or discount rate are prorated under § 356.20(a)(2) of this part, investment advisers that submit bids for controlled accounts in the names of such accounts are responsible for prorating awards for their controlled accounts at the same percentage as that announced by the Department. The same prorating rules apply to controlled accounts as apply to submitters. See § 356.21 of this part.

[61 FR 37010, July 16, 1996]

#### § 356.16 Certifications.

(a) *Submitters.* By submitting a tender for a security, a submitter is deemed to have certified that it is in compliance with this part and the offering announcement governing the sale and issue of the security. Further, the submitter is deemed to have certified that the information provided on the tender with regard to bids for its own account is accurate and complete, and that the information provided on the tender with regard to bids for customers accurately and completely reflects information provided to it by its customers or intermediaries. Prior to submitting a computer tender, a submitter must have on file a written certification that the submitter is certifying, each time it submits a computer tender, that it is in compliance with this part and the applicable offering announcement. The certification must be signed and dated

by an authorized person on behalf of the submitter, be filed with the Federal Reserve Bank to which the computer tender is submitted, and be renewed at least annually.

(b) *Intermediaries.* By forwarding a bid, an intermediary is deemed to have certified that it is in compliance with this part and the offering announcement governing the sale and issue of the security. Further, the intermediary is deemed to have certified that the information provided to a submitter or other intermediary with regard to bids for its own account is accurate and complete, and that the information provided to a submitter or other intermediary with regard to bids for customers accurately and completely reflects information provided to it by its customers or intermediaries.

(c) *Customers.* By bidding for a security, a customer is deemed to have certified that it is in compliance with this part and the offering announcement governing the sale and issue of the security and that the information it provided to the submitter or intermediary in connection with the bid is accurate and complete.

[58 FR 414, Jan. 5, 1993. Redesignated at 61 FR 37010, July 16, 1996]

**§ 356.17 Responsibility for payment.**

A bidder agrees to pay the settlement amount for any securities awarded to it in the auction. (See § 356.25.) In addition, certain payments or provisions for payment are required at the time a tender is submitted. The specific requirements, outlined in this section, depend on whether awarded securities will be delivered in TREASURY DIRECT or TRADES.

(a) *TREASURY DIRECT.* For securities to be held in TREASURY DIRECT, payment of the par amount and announced accrued interest and/or inflation adjustment, if any, must be submitted with the tender unless other provisions have been made, such as payment by an authorized electronic means providing for immediately available funds or by charge to the funds account of a depository institution.

(1) *Payment with tender.* For bills, payment must be by cash, depository institution (cashier's or teller's) check, certified check, currently dated Treas-

ury or fiscal agency check made payable to the bidder, or definitive Treasury securities maturing on or before the issue date of the securities being auctioned, but which are not overdue as defined in the general regulations governing United States securities (31 CFR 306.25). Also, maturing securities held in TREASURY DIRECT may be used as payment for new securities that are being offered, provided that the appropriate transaction request is received timely. For notes or bonds, payment must be in one of the forms described above for bills, or by personal check. Checks submitted to a Federal Reserve Bank must be made payable to that Bank and checks submitted to the Bureau of the Public Debt must be made payable to the Bureau of the Public Debt.

(2) *Payment by authorized electronic means.* Payment may be made by electronic means approved by the Department, provided the bidder, or the submitter on behalf of the bidder, has met the necessary conditions and has satisfactorily completed any required authorizations for such means of payment, in accordance with 31 CFR part 370.

(3) *Authorized charge to a funds account.* If a depository institution or dealer submits a tender for a TREASURY DIRECT bidder and payment is not submitted with the tender or made by an authorized electronic means, an authorization from a depository institution to charge the institution's funds account at a Federal Reserve Bank must be on file with the Bank to which the tender was submitted.

(b) *TRADES.* For securities to be held in TRADES, payment of the par amount and announced accrued interest and/or inflation adjustment, if any, must be submitted with the tender unless other provisions have been made, such as payment by an authorized electronic means providing for immediately available funds or by charge to the funds account of a depository institution.

(1) *Payment with tender.* Where payment is submitted with the tender, payment must be by one of the means specified under paragraph (a)(1) of this section.

(2) *Payment by authorized electronic means.* Payment may be made by electronic means approved by the Department, provided the bidder, or the submitter on behalf of the bidder, has met the necessary conditions, and has satisfactorily completed any required authorizations, for such means of payment.

(3) *Authorized charge to a funds account.* Where payment is not submitted with the tender or made by an authorized electronic means, an authorization to charge the funds account of a depository institution must be provided as follows:

(i) A depository institution with a funds account submitting tenders directly to a Federal Reserve Bank may authorize the Bank to charge its funds account upon delivery of the securities.

(ii) A submitter that chooses not to pay by charge to its funds account or a submitter that does not have a funds account must, prior to the submission of a tender, have an acknowledged autocharge agreement on file at the Federal Reserve Bank to which the tender is submitted. By submitting a tender for securities to be paid for under such autocharge agreement, the submitter authorizes the Federal Reserve Bank to provide, to the depository institution whose funds account will be charged under the agreement, notice of the total par amount of, and price to be charged for, securities awarded as a result of the submitter's tender.

(iii) In addition, a submitter that is a member of a clearing corporation may instruct that delivery and payment be made through the clearing corporation for securities awarded to the submitter for its own account, provided that the following requirements are met:

(A) The submitter must, prior to the submission of a tender for such securities, have a delivery and payment agreement with the clearing corporation acknowledged by, and on file at, the Federal Reserve Bank to which the tender is submitted. By entering into such an agreement, the submitter authorizes the Federal Reserve Bank to provide to the clearing corporation notice of the par amounts of, prices to be charged for, and total payment

amounts for, securities awarded to the submitter for its own account.

(B) An autocharge agreement between the clearing corporation and the depository institution must, prior to the submission of a tender for such securities, be acknowledged by, and on file at, the Federal Reserve Bank servicing the depository institution. By entering into such an agreement, the clearing corporation authorizes the Federal Reserve Bank to which the tender is submitted to provide, to the depository institution whose funds account will be charged under the agreement, notice of the total aggregate par amount of, prices to be charged for, and total payment amounts for, securities to be delivered to the clearing corporation's designated account at the depository institution.

[58 FR 414, Jan. 5, 1993, as amended at 59 FR 28774, June 3, 1994. Redesignated at 61 FR 37010, July 16, 1996, as amended at 61 FR 54909, Oct. 22, 1996; 62 FR 852, Jan. 6, 1997; 62 FR 32032, June 12, 1997]

### Subpart C—Determination of Auction Awards; Settlement

#### § 356.20 Determination of auction awards.

(a) *Determining the range and amount of accepted competitive bids—*(1) *Accepting bids.* Determinations of awards in auctions are made after the closing time for receipt of bids. In determining auction awards, all noncompetitive bids received by the closing time specified in the offering announcement are accepted in full. Then competitive bids are accepted, starting with those at the lowest yields or discount rates through successively higher yields or discount rates, up to the amount required to meet the offering amount. Bids at the highest accepted yield or discount rate will be prorated (as described in paragraph (a)(2) of this section), if necessary. If the amount of noncompetitive bids would absorb most or all of the offering amount, competitive bids will be accepted in an amount determined by Treasury to be sufficient to provide a fair determination of the yield or discount rate for the securities being auctioned.

(2) *Accepting bids at the high yield or discount rate.* When the total amount of

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bids at the highest accepted yield or discount rate exceeds the amount of the offering amount remaining after acceptance of noncompetitive bids and competitive bids at the lower yields or discount rates, a percentage of the bids received at the highest accepted yield or discount rate will be awarded. This proration is performed for the purpose of awarding a par amount of securities close to the offering amount. The percentage is derived by dividing the remaining par amount needed to fill the offering amount by the par amount of the bids recognized at the high yield or rate and rounding up to the next hundredth of a whole percentage point, for example, 17.13%.

(b) *Determining the interest rate for new note and bond issues.* The interest rate established as a result of the auction will be set at a 1/8 of one percent increment. For single-price auctions, the interest rate established produces the price closest to, but not above, par when evaluated at the yield awarded to successful competitive bidders. For multiple-price auctions, the interest rate established produces the price closest to, but not above, par when evaluated at the weighted-average yield of awards to successful competitive bidders.

(c) *Determining purchase prices for awarded securities.* Price calculations will be rounded to three decimal places on the basis of price per hundred, e.g., 99.954. (See appendix B.)

(1) *Multiple-price auctions—(i) Competitive bids.* The price of securities awarded to competitive bidders is the price equivalent to each yield or discount rate at which their bids were accepted.

(ii) *Noncompetitive bids.* The price of securities awarded to noncompetitive bidders is the price equivalent to the weighted average yield or discount rate of accepted competitive bids.

(2) *Single-price auctions.* The price of securities awarded to both competitive and noncompetitive bidders is the price equivalent to the highest yield or discount rate at which bids were accepted. For inflation-indexed securities, the price of such securities will be the

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price equivalent to the highest real yield at which bids were accepted.

[58 FR 414, Jan. 5, 1993, as amended at 62 FR 852, Jan. 6, 1997; 64 FR 3634, Jan. 25, 1999; 67 FR 68516, Nov. 12, 2002]

### § 356.21 Proration of awards.

(a) *Awards to submitters.* In auctions where bids at the highest accepted yield or discount rate are prorated under § 356.20(a)(2) of this part, the Federal Reserve Banks are responsible for prorating awards for submitters at the percentage announced by the Department. For example, if 80.15% is the announced percentage at the highest yield or discount rate, then each bid at that rate or yield shall be awarded 80.15% of the amount bid. Hence, a bid for \$100,000,000 at the highest accepted yield or discount rate would be awarded \$80,150,000. In all cases, awards will be for at least the minimum to hold, and awards must be in an appropriate multiple to hold. Awards at the highest accepted yield or rate are adjusted upwards, if necessary, to an appropriate multiple to hold. For example, Treasury bills may be issued with a minimum to hold of \$1,000 and multiples of \$1,000. Where an \$18,000 bid is accepted at the high discount rate, and the percent awarded at the high discount rate is 88.27%, the award to that bidder will be \$16,000, representing an upward adjustment from \$15,888.60 ( $\$18,000 \times .8827$ ) to an appropriate multiple to hold. If tenders at the highest accepted discount rate are prorated at, for example, a rate of 4.65%, the award for a \$10,000 bid will be \$1,000, instead of \$465, in order to meet the minimum to hold for a bill issue.

(b) *Awards to customers.* In auctions where bids at the highest accepted yield or discount rate are prorated under § 356.20(a)(2), depository institutions and dealers, whether submitters or intermediaries, are responsible for prorating awards for their customers at the same percentage as that announced by the Department. For example, if 80.15% is the announced percentage at the highest yield or discount rate, then each customer bid at that rate or yield shall be awarded 80.15%.

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The same prorating rules apply to customers as apply to submitters.

[58 FR 414, Jan. 5, 1993, as amended at 61 FR 37011, July 16, 1996; 64 FR 3634, Jan. 25, 1999; 67 FR 68516, Nov. 12, 2002]

### § 356.22 Limitation on auction awards.

(a) *Awards to noncompetitive bidders.* The maximum award that will be made to any bidder is \$1 million for bills and \$5 million for notes and bonds. This does not apply to bidders bidding solely through TREASURY DIRECT reinvestment requests.

(b) *Awards to competitive bidders.* The maximum award that will be made to any bidder is 35 percent of the offering amount less the bidder's net long position as reportable under § 356.13. For example, in a note auction with a \$10 billion offering amount, a bidder with a reported net long position of \$1 billion could receive a maximum auction award of \$2.5 billion. When the bids and net long positions of more than one person or entity must be combined as required by § 356.15(c), such combined amount will be used for the purpose of this award limitation.

[58 FR 414, Jan. 5, 1993, as amended at 61 FR 37011, July 16, 1996; 67 FR 68517, Nov. 12, 2002]

### § 356.23 Announcing auction results.

(a) After the conclusion of the auction, the Department will make an official announcement of the auction results through a press release.

(b) The press release will include such information as:

- (1) The amounts of bids recognized and accepted;
- (2) The range of accepted yields or discount rates;
- (3) The proration percentage;
- (4) The interest rate for a note or bond;
- (5) A breakdown of the amounts of noncompetitive and competitive bids recognized and accepted from the public;
- (6) The amounts recognized and accepted from the Federal Reserve Banks for their own account and for foreign and international monetary authorities;
- (7) The minimum par amount required to strip a note or bond;
- (8) The bid-to-cover ratio; and

(9) Other information that the Department may decide to include.

[64 FR 3634, Jan. 25, 1999]

### § 356.24 Notice of awards; confirmations.

(a) *Notice of awards*—(1) *Notice to submitters.* Notice of awards will be provided by a Federal Reserve Bank or the Department to submitters of successful competitive bids. Submitters of noncompetitive bids will be notified only when the price to be paid by noncompetitive bidders is over par or if noncompetitive bids are not accepted in full.

(2) *Notice to clearing corporation.* If awarded securities are to be delivered pursuant to a delivery and payment agreement, notice of the awards also will be provided by a Federal Reserve Bank or the Department to the clearing corporation that is a party to such agreement.

(b) *Confirmation of award to customer.* A submitter submitting a bid for customers is responsible for notifying its customers and intermediaries that forwarded bids to it of the awards. Similarly, an intermediary is responsible for notifying its customers and any intermediaries that forwarded bids to it of the awards.

(c) *Confirmation of award and settlement amount to a depository institution having an autocharge agreement with a submitter or a clearing corporation.* Not later than the day after each auction, the appropriate Federal Reserve Bank will notify each depository institution that has entered into an autocharge agreement with either a submitter or a clearing corporation as to the amount to be charged to the institution's funds account at the Federal Reserve Bank on the issue date.

(d) *Customer confirmation.* Any customer awarded a par amount of \$500 million or more in an auction must furnish a confirmation including the information in paragraphs (d) (1) and (2) of this section to the Federal Reserve Bank to which the bid was submitted, no later than 10:00 a.m. on the day following the auction. The confirmation must be signed by the customer or authorized representative and must include the capacity in which such representative is acting. A submitter or



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intermediary submitting or forwarding a customer bid is responsible for notifying its customer of this requirement if the customer is awarded a par amount of \$500 million or more as a result of bids submitted by the submitter or forwarded by the intermediary.

(1) A written confirmation of its bid, and

(2) A written statement indicating whether it had a reportable net long position as defined in § 356.13, and, if a position had to be reported, the amount of any such position and the name of the depository institution or dealer through which the customer requested that the position be reported.

[58 FR 414, Jan. 5, 1993, as amended at 59 FR 28775, June 3, 1994]

## § 356.25 Payment for awarded securities.

Payment for securities is to be accomplished by the issue date. Payment will be accomplished as follows:

(a) *Payment with tender.* When payment is made with the tender as provided for in § 356.17 (a)(1) and (b)(1), settlement is accomplished as follows:

(1) *When an amount is due the submitter.* When the payment previously remitted by the submitter exceeds the settlement amount, the balance will be refunded to the submitter following the auction.

(2) *When the submitter must remit an additional amount.* When the settlement amount exceeds the payment previously remitted by the submitter, the submitter will be notified of the additional amount due and is responsible for remitting it immediately. Such additional amount may be due if the auction calculations result in a premium or if accrued interest and/or inflation adjustment is due.

(b) *Payment by authorized electronic means.* Where the method of payment is by an authorized electronic means as provided for in § 356.17 (a)(2) or (b)(2), the settlement amount will be charged to the specified account on the issue date.

(c) *Payment by authorized charge to a funds account.* Where the submitter's method of payment is an authorized charge to the funds account of a depository institution as provided for in § 356.17 (a)(3) or (b)(3), the settlement

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amount will be charged to the specified funds account on the issue date.

(d) *Amount of payment for awarded securities.* The payment amount for awarded securities will be the settlement amount as defined in § 356.2. (See formulas in appendix B.)

[58 FR 414, Jan. 5, 1993, as amended at 61 FR 54910, Oct. 22, 1996; 62 FR 852, Jan. 6, 1997]

## Subpart D—Miscellaneous Provisions

### § 356.30 Payment of principal and interest on notes and bonds.

(a) *General.* Principal on notes and bonds will be paid on the maturity date as specified in the offering announcement unless the security is called pursuant to its terms and in accordance with appropriate public notice. Interest on notes and bonds accrues from the dated date. Interest is payable on a semiannual basis on the interest payment dates specified in the offering announcement through the date that the principal becomes payable. In the event any principal or interest payment date is not a business day, the amount is payable (without additional interest) on the next business day.

(b) *Treasury inflation-indexed securities.* At maturity, the inflation-adjusted principal will be paid, unless the inflation-adjusted principal is less than the par amount of the security, in which case an additional amount will be paid at maturity so that the additional amount plus the inflation-adjusted principal equals the par amount. If a security has been stripped, any such additional amount will be paid at maturity to holders of principal components only. Regardless of whether or not an additional amount is paid, the final interest payment will be based on the inflation-adjusted principal at maturity.

[58 FR 414, Jan. 5, 1993, as amended at 62 FR 852, Jan. 6, 1997]

### § 356.31 STRIPS.

(a) *General.* A note or bond may be designated in the offering announcement, or later by announcement by Treasury, as eligible for the STRIPS program. At the option of the holder, and generally at any time from its

issue date until its call or maturity, any such security may be “stripped,” i.e., divided into separate principal and interest components. A short or long first interest payment and all interest payments within a callable period are not eligible to be stripped from the principal component. The CUSIP numbers and payment dates for the principal and interest components are provided in the offering announcement if not previously announced.

(b) *Treasury fixed-principal securities—*

(1) *Minimum par amounts required for STRIPS.* The minimum par amount of a fixed-principal security that may be stripped into the components described in paragraph (a) of this section is \$1,000. Any par amount to be stripped above \$1,000 must be in a multiple of \$1,000.

(2) *Principal components.* Principal components stripped from fixed-principal securities are maintained in accounts, and transferred, at their par amount. The principal components have a CUSIP number that is different from the CUSIP number of the fully-constituted (unstripped) security.

(3) *Interest components.* Interest components stripped from fixed-principal securities are maintained in accounts, and transferred, at their original payment value, which is derived by applying the semiannual interest rate to the par amount. When an interest component is created, the interest payment date becomes the maturity date for the component. All such components with the same maturity date have the same CUSIP number, regardless of the underlying security from which the interest payments were stripped. All interest components have CUSIP numbers that are different from the CUSIP number of any fully-constituted security and any principal component.

(c) *Treasury inflation-indexed securities—*(1) *Minimum par amounts required for STRIPS.* The minimum par amount of an inflation-indexed security that may be stripped into the components described in paragraph (a) of this section is \$1,000. Any par amount to be stripped above \$1,000 must be in a multiple of \$1,000.

(2) *Principal components.* Principal components stripped from inflation-indexed securities are maintained in ac-

counts, and transferred, at their par amount. At maturity, the holder will receive the inflation-adjusted principal value or the par amount, whichever is greater. (See §356.30.) The principal components have a CUSIP number that is different from the CUSIP number of the fully-constituted (unstripped) security.

(3) *Interest components.* Interest components stripped from inflation-indexed securities are maintained in accounts, and transferred, at their adjusted value, which is derived by multiplying the semiannual interest rate by the par amount and then multiplying this value by 100 divided by the Reference CPI of the original issue date (or dated date, when the dated date is different from the original issue date). See Appendix B, Section IV to this part, for an example of how to calculate an adjusted value. The payment value of any interest component created prior to March 31, 1999, will be converted to its adjusted value. When an interest component is created, the interest payment date becomes the maturity date for the component. All such components with the same maturity date have the same CUSIP number, regardless of the underlying security from which the interest payments were stripped. The CUSIP number of any interest component created prior to March 31, 1999, will be converted to the fungible CUSIP number for the same maturity date. All interest components have CUSIP numbers that are different from the CUSIP number of any fully-constituted security and any principal component. At maturity, the payment to the holder will be derived by multiplying the adjusted value of the interest component by the Reference CPI of the maturity date, divided by 100. See Appendix B, Section IV to this part, for an example of how to calculate an actual payment amount from an adjusted value.

(4) *Rebasing of the CPI.* In the event that the CPI is rebased, the adjusted values of all outstanding inflation-indexed interest components will be converted to adjusted values based on the new base reference period. At such time, Treasury will publish information specifying the manner in which this conversion will be accomplished.

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Subsequent to rebasing, any TINTS created from a security that was issued during a prior base reference period will be issued with adjusted values calculated using reference CPIs under the most-recent base reference period.

(d) *Reconstituting a security.* Stripped interest and principal components may be reconstituted, i.e., restored to their fully-constituted form. A principal component and all related unmatured interest components, in the appropriate minimum or multiple amounts or adjusted values, must be submitted together for reconstitution. Interest components stripped from inflation-indexed securities are different from interest components stripped from fixed-principal securities and, accordingly, are not interchangeable for reconstitution purposes.

(e) *Applicable regulations.* Unless otherwise provided in this part, notes and bonds stripped into their STRIPS components are governed by subparts A, B, and D of part 357 of this chapter.

[63 FR 35783, June 30, 1998, as amended at 65 FR 66175, Nov. 3, 2000; 65 FR 66175, Nov. 3, 2000]

## § 356.32 Taxation.

(a) *General.* Securities issued under this part are subject to all applicable taxes imposed under the Internal Revenue Code of 1986, or successor. Under section 3124 of title 31, United States Code, the securities are exempt from taxation by a State or political subdivision of a State, except for State estate or inheritance taxes and other exceptions as provided in that section.

(b) *Treasury inflation-indexed securities.* Special federal income tax rules for inflation-indexed securities, and principal and interest components stripped from such securities, are set forth in Internal Revenue Service regulations.

[62 FR 853, Jan. 6, 1997]

## § 356.33 Reservation of rights.

The Secretary reserves the right to accept or reject or refuse to recognize any or all bids or tenders submitted under this part. The Secretary also reserves the right to award more or less securities than the amount of securities specified in the offering announce-

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ment. The Secretary further reserves the right to waive any provision or provisions of this part for any or all bidders or submitters. Decisions of the Secretary under this section shall be final.

## § 356.34 Remedies.

(a) *General.* When a person or an entity fails to comply with the requirements of this part, the Secretary will consider the circumstances of such failure and determine an appropriate remedy. Such remedy may include prohibiting the person or entity from participating in future auctions for its own account, for the account of others, or both. The Secretary may refer such occurrences to the appropriate regulatory agency for enforcement action.

(b) *Liquidated damages.* A bidder agrees to pay liquidated damages of 1% of the par amount of securities awarded the bidder in an auction if the bidder fails to pay for the awarded securities in a timely manner. The Secretary may waive, in whole or in part, the payment of liquidated damages. This liquidated damages provision shall not preclude the use of any other available remedy.

## § 356.35 Reservations as to terms of offerings.

The Secretary reserves the right to supplement or amend provisions of this part. The Secretary further reserves the right to modify the terms and conditions of new securities and to depart from the customary pattern of securities offerings at any time. Public notice of any such changes will be provided.

## § 356.36 Paperwork Reduction Act approval.

The collections of information contained in §§ 356.11, 356.12, 356.13, 356.14, and 356.15 and in appendix A of this part have been approved by the Office of Management and Budget under control number 1535-0112.

[61 FR 37011, July 16, 1996]

## APPENDIX A TO PART 356—BIDDER DEFINITIONS

For the purpose of this part, the definitions set forth in this appendix describe all of the categories of bidders eligible to bid in

Treasury auctions. These definitions are to be used by persons and entities in determining whether they are considered one bidder or more than one bidder for the purpose of bidding in auctions and for the purpose of complying with the requirements of this part. Notwithstanding these definitions, any persons or entities that intentionally act together with respect to bidding in a Treasury auction are considered, collectively, to be one bidder.

The following definitions will be used by the Department in applying competitive and noncompetitive award limitations and related requirements, as described in this part.

(a) *Corporation*—A corporation and all affiliates, whether persons, partnerships, or other entities, hereinafter referred to as a corporate structure, are considered, collectively, to be one bidder.

An affiliate is any: entity that is more than 50% owned, directly or indirectly, by the corporation; entity that is more than 50% owned, directly or indirectly, by any other affiliate of the corporation; person or entity that owns, directly or indirectly, more than 50% of the corporation; person or entity that owns, directly or indirectly, more than 50% of any other affiliate of the corporation; or entity, a majority of whose board of directors or a majority of whose general partners are directors or officers of the corporation or of any affiliate of the corporation.

For the purpose of this part, a business trust, such as a Massachusetts business trust or a Delaware business trust, is considered to be a corporation.

Under certain circumstances, one or more major organizational components (e.g., the parent or a subsidiary) in a corporate structure, either separately or together with one or more other organizational components in the corporate structure, may be recognized as a bidder separate from the larger corporate structure. All of the following criteria must be met for such component or components to qualify for recognition as a separate bidder:

(1) Such component or components must be prohibited by law or regulation from exchanging, or must have established written internal procedures (i.e., Chinese walls) designed to prevent the exchange of, information related to bidding in Treasury auctions with any other component in the corporate structure;

(2) Such component or components must not be created for the purpose of circumventing the Department's bidding and award limitations;

(3) Decisions related to purchasing Treasury securities at auction and participation in specific auctions must be made by employees of such component or components. Employees of such component or components that make decisions to purchase or dispose

of Treasury securities must not perform the same function for other components within the corporate structure; and

(4) The records of such component or components related to the bidding for, acquisition of, and disposition of Treasury securities must be maintained by such component or components. Those records must be identifiable—separate and apart from similar records for other components within the corporate structure.

To obtain recognition as a separate bidder, each component or group of components must request such recognition from the Department, provide a description of the component or group and its position within the corporate structure, and provide the following certification:

[Name of the bidder] hereby certifies that to the best of its knowledge and belief it meets the criteria for a separate bidder as described in appendix A to 31 CFR part 356. The above-named bidder also certifies that it has established written policies or procedures, including ongoing compliance monitoring processes, that are designed to prevent the component or group of components from:

(1) Exchanging any of the following information with any other part of the corporate structure: (a) Yields or rates at which it plans to bid; (b) amounts of securities for which it plans to bid; (c) positions that it holds or plans to acquire in a security being auctioned; and (d) investment strategies that it plans to follow regarding the security being auctioned, or

(2) In any way intentionally acting together with any other part of the corporate structure with respect to formulating or entering bids in a Treasury auction.

The above-named bidder agrees that it will promptly notify the Department in writing when any of the information provided to obtain separate bidder status changes or when this certification is no longer valid.

(b) *Partnership*—A partnership for which the Internal Revenue Service has assigned a tax-identification number; general partners acting on behalf of the partnership; and all affiliates, whether persons, corporations, or other entities; hereinafter referred to as a partnership structure, are considered, collectively, to be one bidder. A partnership structure that contains one or more corporations is considered one bidder under either this "partnership" category or the "corporation" category, but not both.

An affiliate is any: Entity that is more than 50% owned, directly or indirectly, by the partnership; entity that is more than 50% owned, directly or indirectly, by any other affiliate of the partnership; person or entity that owns, directly or indirectly, more than 50% of the partnership; person or entity that owns, directly or indirectly,

more than 50% of any other affiliate of the partnership; or entity, a majority of whose general partners or a majority of whose board of directors are general partners or directors of the partnership or of any affiliate of the partnership.

Under certain circumstances, one or more major organizational components (e.g., the partnership or a subsidiary) in a partnership structure, either separately or together with one or more other organizational components in the partnership structure, may be recognized as a bidder separate from the larger partnership structure. All of the following criteria must be met for such component or components to qualify for recognition as a separate bidder:

(1) Such component or components must be prohibited by law or regulation from exchanging, or must have established written internal procedures (i.e., Chinese walls) designed to prevent the exchange of, information related to bidding in Treasury auctions with any other component in the partnership structure;

(2) Such component or components must not be created for the purpose of circumventing the Department's bidding and award limitations;

(3) Decisions related to purchasing Treasury securities at auction and participation in specific auctions must be made by employees of such component or components. Employees of such component or components that make decisions to purchase or dispose of Treasury securities must not perform the same function for other components within the partnership structure; and

(4) The records of such component or components related to the bidding for, acquisition of, and disposition of Treasury securities must be maintained by such component or components. Those records must be identifiable—separate and apart from similar records for other components within the partnership structure.

To obtain recognition as a separate bidder, each component or group of components must request such recognition from the Department, provide a description of the component or group and its position within the partnership structure, and provide the following certification:

[Name of the bidder] hereby certifies that to the best of its knowledge and belief it meets the criteria for a separate bidder as described in appendix A to 31 CFR part 356. The above-named bidder also certifies that it has established written policies or procedures, including ongoing compliance monitoring processes, that are designed to prevent the component or group of components from:

(1) Exchanging any of the following information with any other part of the partnership structure: (a) Yields or rates at which it plans to bid; (b) amounts of securities for

which it plans to bid; (c) positions that it holds or plans to acquire in a security being auctioned; and (d) investment strategies that it plans to follow regarding the security being auctioned, or

(2) In any way intentionally acting together with any other part of the partnership structure with respect to formulating or entering bids in a Treasury auction.

The above-named bidder agrees that it will promptly notify the Department in writing when any of the information provided to obtain separate bidder status changes or when this certification is no longer valid.

(c) *Government-related entity*—(1) The government of each of the 50 states and of the District of Columbia is considered to be one bidder.

(2) A unit of local government, including any county, city, municipality, or township, or other unit of general government, as defined by the Bureau of the Census for statistical purposes, is considered to be one bidder.

(3) The government of a commonwealth, territory, or possession of the United States is considered to be one bidder.

(4) A governmental entity, body, or corporation established under Federal, State, or local law is considered to be one bidder.

(5) A foreign central bank, the government of a foreign state, or an international organization in which the United States holds membership is considered to be one bidder.

An investment, reserve, or other fund of one of the above government-related entities, not otherwise meeting the definition of the "trust or other fiduciary estate" category, is considered part of that entity and not a separate bidder unless applicable law requires that the investments of such fund be made separately.

(d) *Trust or other fiduciary estate*—A legal entity created under a valid trust instrument, court order, or other legal authority that designates a trustee or fiduciary to act for the benefit of a named beneficiary may be considered a bidder. To be considered a bidder, such legal entity must be able to be identified by the name or title of the trustee or fiduciary; specific reference to the trust instrument, court order, or legal authority under which the trustee or fiduciary is acting; and the unique IRS-assigned employer identification number (not social security number) for the entity. Further, it must be the trustee or fiduciary who makes the decisions related to participation in auctions on behalf of the trust or fiduciary estate.

(e) *Individual*—A person, whether acting in his or her individual capacity, as a sole proprietor, for any entity not otherwise defined as a bidder, or in more than one such capacity, is considered to be one bidder. When a person meets the definition of an affiliate within a corporate or partnership structure as defined above, such person may only be

considered a bidder in this "individual" category when the bidder of which they are a part is not bidding in the same auction. A person acting in an official capacity as an employee or other representative of a bidder defined in any other category is not considered an "individual" bidder when acting in such capacity. A person, his or her spouse, and any children under the age of 21 having a common household are considered, collectively, to be one "individual" bidder.

(f) *Other bidder*—A bidder defined by any of the above categories is not considered a bidder in this category. A bidder not defined by any of the above categories may possibly be considered a bidder in this category. For purposes of this definition, "other bidder" means an institution or organization with a unique IRS-assigned employer identification number. This definition of other bidder includes such entities as an association, church, university, union, or club. This category does not include any person or entity acting in a fiduciary or investment management capacity, a sole proprietorship, an investment account, an investment fund, a form of registration, or investment ownership designation.

Notwithstanding the definitions in this appendix, it is the intent of the Department that no auction participant receive a larger auction award by acquiring securities through others than it could have received had it been considered a bidder under these definitions.

[58 FR 414, Jan. 5, 1993, as amended at 61 FR 37011, July 16, 1996]

#### APPENDIX B TO PART 356—FORMULAS AND TABLES

##### I. Computation of Interest on Treasury Bonds and Notes.

##### II. Formulas for Conversion of Fixed-Principal Security Yields to Equivalent Prices.

##### III. Formulas for Conversion of Inflation-Indexed Security Yields to Equivalent Prices.

##### IV. Computation of Adjusted Values and Payment Amounts for Stripped Inflation-Indexed Interest Components.

##### V. Computation of Purchase Price, Discount Rate, and Investment Rate (Coupon-Equivalent Yield) for Treasury Bills.

The numbers in this appendix are examples given for illustrative purposes only and are in no way a prediction of interest rates on any bills, notes, or bonds issued under this part.

In some of the following examples, intermediate rounding is used to allow the reader to follow the calculations. In actual practice, the Department generally does not round prior to determining the final result.

#### I. COMPUTATION OF INTEREST ON TREASURY BONDS AND NOTES

##### A. Treasury Fixed-Principal Securities

##### 1. Regular Half-Year Payment Period

Interest on marketable fixed-principal securities is payable on a semiannual basis. The regular interest payment period is a full half-year of six calendar months. Examples of half-year periods are: (1) February 15 to August 15, (2) May 31 to November 30, and (3) February 29 to August 31 (in a leap year). Calculation of an interest payment for a fixed-principal security with a par amount of \$1,000 and an interest rate of 8% is made in this manner:

$(\$1,000 \times .08)/2 = \$40$ . Specifically, a semi-annual interest payment represents one-half of one year's interest, and is computed on this basis regardless of the actual number of days in the half-year.

##### 2. Daily Interest Decimal

In cases where an interest payment period for a fixed-principal security is shorter or longer than six months or where accrued interest is payable by an investor, a daily interest decimal, based on the actual number of days in the half-year or half-years involved, must be computed. The number of days in any half-year period is shown in Table 1.

TABLE 1

Interest period	Beginning and ending days are 1st or 15th of the months listed under interest period (number of days)		Beginning and ending days are the last days of the months listed under interest period (number of days)	
	Regular year	Leap year	Regular year	Leap year
January to July .....	181	182	181	182
February to August .....	181	182	184	184
March to September .....	184	184	183	183
April to October .....	183	183	184	184
May to November .....	184	184	183	183
June to December .....	183	183	184	184
July to January .....	184	184	184	184
August to February .....	184	184	181	182
September to March .....	181	182	182	183
October to April .....	182	183	181	182

TABLE 1—Continued

Interest period	Beginning and ending days are 1st or 15th of the months listed under interest period (number of days)		Beginning and ending days are the last days of the months listed under interest period (number of days)	
	Regular year	Leap year	Regular year	Leap year
November to May .....	181	182	182	183
December to June .....	182	183	181	182

Table 2 below sets forth the daily interest decimals covering interest from 1/8% to 20% on \$1,000 for one day in increments of 1/8 of one percent. These decimals represent 1/181, 1/182, 1/183, or 1/184 of a full semiannual interest payment, depending on which half-year is applicable.

TABLE 2—DECIMAL FOR ONE DAY'S INTEREST ON \$1,000 AT VARIOUS RATES OF INTEREST, PAYABLE SEMIANNUALLY OR ON A SEMIANNUAL BASIS, IN REGULAR YEARS OF 365 DAYS AND IN YEARS OF 366 DAYS (TO DETERMINE APPLICABLE NUMBER OF DAYS, SEE TABLE 1)

Rate per annum (percent)	Half-year of 184 days	Half-year of 183 days	Half-year of 182 days	Half-year of 181 days
1/8 .....	0.003396739	0.003415301	0.003434066	0.003453039
1/4 .....	0.006793478	0.006830601	0.006868132	0.006906077
3/8 .....	0.010190217	0.010245902	0.010302198	0.010359116
1/2 .....	0.013586957	0.013661202	0.013736264	0.013812155
5/8 .....	0.016983696	0.017076503	0.017170330	0.017265193
3/4 .....	0.020380435	0.020491803	0.020604396	0.020718232
7/8 .....	0.023777174	0.023907104	0.024038462	0.024171271
1 .....	0.027173913	0.027322404	0.027472527	0.027624309
1 1/8 .....	0.030570652	0.030737705	0.030906593	0.031077348
1 1/4 .....	0.033967391	0.034153005	0.034340659	0.034530387
1 1/2 .....	0.037364130	0.037568306	0.037774725	0.037983425
1 5/8 .....	0.040760870	0.040983607	0.041208791	0.041436464
1 3/4 .....	0.044157609	0.044398907	0.044642857	0.044889503
1 7/8 .....	0.047554348	0.047814208	0.048076923	0.048342541
1 7/8 .....	0.050951087	0.051229508	0.051510989	0.051795580
2 .....	0.054347826	0.054644809	0.054945055	0.055248619
2 1/8 .....	0.057744565	0.058060109	0.058379121	0.058701657
2 1/4 .....	0.061141304	0.061475410	0.061813187	0.062154696
2 3/8 .....	0.064538043	0.064890710	0.065247253	0.065607735
2 1/2 .....	0.067934783	0.068306011	0.068681319	0.069060773
2 5/8 .....	0.071331522	0.071721311	0.072115385	0.072513812
2 3/4 .....	0.074728261	0.075136612	0.075549451	0.075966851
2 7/8 .....	0.078125000	0.078551913	0.078983516	0.079419890
3 .....	0.081521739	0.081967213	0.082417582	0.082872928
3 1/8 .....	0.084918478	0.085382514	0.085851648	0.086325967
3 1/4 .....	0.088315217	0.088797814	0.089285714	0.089779006
3 3/8 .....	0.091711957	0.092213115	0.092719780	0.093232044
3 1/2 .....	0.095108696	0.095628415	0.096153846	0.096685083
3 5/8 .....	0.098505435	0.099043716	0.099587912	0.100138122
3 3/4 .....	0.101902174	0.102459016	0.103021978	0.103591160
3 7/8 .....	0.105298913	0.105874317	0.106456044	0.107044199
4 .....	0.108695652	0.109289617	0.109890110	0.110497238
4 1/8 .....	0.112092391	0.112704918	0.113324176	0.113950276
4 1/4 .....	0.115489130	0.116120219	0.116758242	0.117403315
4 3/8 .....	0.118885870	0.119535519	0.120192308	0.120856354
4 1/2 .....	0.122282609	0.122950820	0.123626374	0.124309392
4 5/8 .....	0.125679348	0.126366120	0.127060440	0.127762431
4 3/4 .....	0.129076087	0.129781421	0.130494505	0.131215470
4 7/8 .....	0.132472826	0.133196721	0.133928571	0.134668508
5 .....	0.135869565	0.136612022	0.137362637	0.138121547
5 1/8 .....	0.139266304	0.140027322	0.140796703	0.141574586
5 1/4 .....	0.142663043	0.143442623	0.144230769	0.145027624
5 3/8 .....	0.146059783	0.146857923	0.147664835	0.148480663
5 1/2 .....	0.149456522	0.150273224	0.151098901	0.151933702
5 5/8 .....	0.152853261	0.153688525	0.154532967	0.155386740
5 3/4 .....	0.156250000	0.157103825	0.157967033	0.158839779
5 7/8 .....	0.159646739	0.160519126	0.161401099	0.162292818
6 .....	0.163043478	0.163934426	0.164835165	0.165745856
6 1/8 .....	0.166440217	0.167349727	0.168269231	0.169198895
6 1/4 .....	0.169836957	0.170765027	0.171703297	0.172651934
6 3/8 .....	0.173233696	0.174180328	0.175137363	0.176104972
6 1/2 .....	0.176630435	0.177595628	0.178571429	0.179558011
6 5/8 .....	0.180027174	0.181010929	0.182005495	0.183011050
6 3/4 .....	0.183423913	0.184426230	0.185439560	0.186464088
6 7/8 .....	0.186820652	0.187841530	0.188873626	0.189917127

TABLE 2—DECIMAL FOR ONE DAY'S INTEREST ON \$1,000 AT VARIOUS RATES OF INTEREST, PAYABLE SEMIANNUALLY OR ON A SEMIANNUAL BASIS, IN REGULAR YEARS OF 365 DAYS AND IN YEARS OF 366 DAYS (TO DETERMINE APPLICABLE NUMBER OF DAYS, SEE TABLE 1)—Continued

Rate per annum (percent)	Half-year of 184 days	Half-year of 183 days	Half-year of 182 days	Half-year of 181 days
7	0.190217391	0.191256831	0.192307692	0.193370166
7 1/8	0.193614130	0.194672131	0.195741758	0.196823204
7 1/4	0.197010870	0.198087432	0.199175824	0.200276243
7 3/8	0.200407609	0.201502732	0.202609890	0.203729282
7 1/2	0.203804348	0.204918033	0.206043956	0.207182320
7 5/8	0.207201087	0.208333333	0.209478022	0.210635359
7 3/4	0.210597826	0.211748634	0.212912088	0.214088398
7 7/8	0.213994565	0.215163934	0.216346154	0.217541436
8	0.217391304	0.218579235	0.219780220	0.220994475
8 1/8	0.220788043	0.221994536	0.223214286	0.224447514
8 1/4	0.224184783	0.225409836	0.226648352	0.227900552
8 3/8	0.227581522	0.228825137	0.230082418	0.231353591
8 1/2	0.230978261	0.232240437	0.233516484	0.234806630
8 5/8	0.234375000	0.235655738	0.236950549	0.238259669
8 3/4	0.237771739	0.239071038	0.240384615	0.241712707
8 7/8	0.241168478	0.242486339	0.243818681	0.245165746
9	0.244565217	0.245901639	0.247252747	0.248618785
9 1/8	0.247961957	0.249316940	0.250686813	0.252071823
9 1/4	0.251358696	0.252732240	0.254120879	0.255524862
9 3/8	0.254755435	0.256147541	0.257554945	0.258977901
9 1/2	0.258152174	0.259562842	0.260989011	0.262430939
9 5/8	0.261548913	0.262978142	0.264423077	0.265883978
9 3/4	0.264945652	0.266393443	0.267857143	0.269337017
9 7/8	0.268342391	0.269808743	0.271291209	0.272790055
10	0.271739130	0.273224044	0.274725275	0.276243094
10 1/8	0.275135870	0.276639344	0.278159341	0.279696133
10 1/4	0.278532609	0.280054645	0.281593407	0.283149171
10 3/8	0.281929348	0.283469945	0.285027473	0.286602210
10 1/2	0.285326087	0.286885246	0.288461538	0.290055249
10 5/8	0.288722826	0.290300546	0.291895604	0.293508287
10 3/4	0.292119565	0.293715847	0.295329670	0.296961326
10 7/8	0.295516304	0.297131148	0.298763736	0.300414365
11	0.298913043	0.300546448	0.302197802	0.303867403
11 1/8	0.302309783	0.303961749	0.305631868	0.307320442
11 1/4	0.305706522	0.307377049	0.309065934	0.310773481
11 3/8	0.309103261	0.310792350	0.312500000	0.314226519
11 1/2	0.312500000	0.314207650	0.315934066	0.317679558
11 5/8	0.315896739	0.317622951	0.319368132	0.321132597
11 3/4	0.319293478	0.321038251	0.322802198	0.324585635
11 7/8	0.322690217	0.324453552	0.326236264	0.328038674
12	0.326086957	0.327868852	0.329670330	0.331491713
12 1/8	0.329483696	0.331284153	0.333104396	0.334944751
12 1/4	0.332880435	0.334699454	0.336538462	0.338397790
12 3/8	0.336277174	0.338114754	0.339972527	0.341850829
12 1/2	0.339673913	0.341530055	0.343406593	0.345303867
12 5/8	0.343070652	0.344945355	0.346840659	0.348756906
12 3/4	0.346467391	0.348360656	0.350274725	0.352209945
12 7/8	0.349864130	0.351775956	0.353708791	0.355662983
13	0.353260870	0.355191257	0.357142857	0.359116022
13 1/8	0.356657609	0.358606557	0.360576923	0.362569061
13 1/4	0.360054348	0.362021858	0.364010989	0.366022099
13 3/8	0.363451087	0.365437158	0.367445055	0.369475138
13 1/2	0.366847826	0.368852459	0.370879121	0.372928177
13 5/8	0.370244565	0.372267760	0.374313187	0.376381215
13 3/4	0.373641304	0.375683060	0.377747253	0.379834254
13 7/8	0.377038043	0.379098361	0.381181319	0.383287293
14	0.380434783	0.382513661	0.384615385	0.386740331
14 1/8	0.383831522	0.385928962	0.388049451	0.390193370
14 1/4	0.387228261	0.389344262	0.391483516	0.393646409
14 3/8	0.390625000	0.392759563	0.394917582	0.397099448
14 1/2	0.394021739	0.396174863	0.398351648	0.400552486
14 5/8	0.397418478	0.399590164	0.401785714	0.404005525
14 3/4	0.400815217	0.403005464	0.405219780	0.407458564
14 7/8	0.404211957	0.406420765	0.408653846	0.410911602
15	0.407608696	0.409836066	0.412087912	0.414364641
15 1/8	0.411005435	0.413251366	0.415521978	0.417817680
15 1/4	0.414402174	0.416666667	0.418956044	0.421270718
15 3/8	0.417798913	0.420081967	0.422390110	0.424723757
15 1/2	0.421195652	0.423497268	0.425824176	0.428176796



TABLE 2—DECIMAL FOR ONE DAY'S INTEREST ON \$1,000 AT VARIOUS RATES OF INTEREST, PAYABLE SEMIANNUALLY OR ON A SEMIANNUAL BASIS, IN REGULAR YEARS OF 365 DAYS AND IN YEARS OF 366 DAYS (TO DETERMINE APPLICABLE NUMBER OF DAYS, SEE TABLE 1)—Continued

Rate per annum (percent)	Half-year of 184 days	Half-year of 183 days	Half-year of 182 days	Half-year of 181 days
15% .....	0.424592391	0.426912568	0.429258242	0.431629834
15¼% .....	0.427989130	0.430327869	0.432692308	0.435082873
15½% .....	0.431385870	0.433743169	0.436126374	0.438535912
16 .....	0.434782609	0.437158470	0.439560440	0.441988950
16¼% .....	0.438179348	0.440573770	0.442994505	0.445441989
16½% .....	0.441576087	0.443989071	0.446428571	0.448895028
16¾% .....	0.444972826	0.447404372	0.449862637	0.452348066
17 .....	0.448369565	0.450819672	0.453296703	0.455801105
17¼% .....	0.451766304	0.454234973	0.456730769	0.459254144
17½% .....	0.455163043	0.457650273	0.460164835	0.462707182
17¾% .....	0.458559783	0.461065574	0.463598901	0.466160221
18 .....	0.461956522	0.464480874	0.467032967	0.469613260
18¼% .....	0.465353261	0.467896175	0.470467033	0.473066298
18½% .....	0.468750000	0.471311475	0.473901099	0.476519337
18¾% .....	0.472146739	0.474726776	0.477335165	0.479972376
19 .....	0.475543478	0.478142077	0.480769231	0.483425414
19¼% .....	0.478940217	0.481557377	0.484203297	0.486878453
19½% .....	0.482336957	0.484972678	0.487637363	0.490331492
19¾% .....	0.485733696	0.488387978	0.491071429	0.493784530
20 .....	0.489130435	0.491803279	0.494505495	0.497237569
20¼% .....	0.492527174	0.495218579	0.497939560	0.500690608
20½% .....	0.495923913	0.498633880	0.501373626	0.504143646
20¾% .....	0.499320652	0.502049180	0.504807692	0.507596685
21 .....	0.502717391	0.505464481	0.508241758	0.511049724
21¼% .....	0.506114130	0.508879781	0.511675824	0.514502762
21½% .....	0.509510870	0.512295082	0.515109890	0.517955801
21¾% .....	0.512907609	0.515710383	0.518543956	0.521408840
22 .....	0.516304348	0.519125683	0.521978022	0.524861878
22¼% .....	0.519701087	0.522540984	0.525412088	0.528314917
22½% .....	0.523097826	0.525956284	0.528846154	0.531767956
22¾% .....	0.526494565	0.529371585	0.532280220	0.535220994
23 .....	0.529891304	0.532786885	0.535714286	0.538674033
23¼% .....	0.533288043	0.536202186	0.539148352	0.542127072
23½% .....	0.536684783	0.539617486	0.542582418	0.545580110
23¾% .....	0.540081522	0.543032787	0.546016484	0.549033149
24 .....	0.543478261	0.546448087	0.549450549	0.552486188

### 3. Short First Payment Period

In cases where the first interest payment period for a fixed-principal security covers less than a full half-year period (a "short coupon"), the daily interest decimal is multiplied by the number of days from, but not including, the issue date to, and including, the first interest payment date, resulting in the amount of the interest payable per \$1,000 par amount. In cases where the par amount of securities is greater than \$1,000, the appropriate multiple should be multiplied by the unrounded interest payment amount for \$1,000 par amount.

*Example.* A 2-year fixed-principal note paying 8½% interest was issued on July 2, 1990, with the first interest payment on December 31, 1990. The number of days in the full half-year period of June 30 to December 31, 1990, was 184 (see Table 1). The number of days for which interest actually accrued was 182 (not including July 2, but including December 31). The daily interest decimal, \$0.227581522 (see Table 2, line for 8½%, under the column for half-year of 184 days), was multiplied by 182,

resulting in a payment of \$41.419837004 per \$1,000. Because the note was issued in a minimum denomination of \$5,000, \$41.419837004 was multiplied by 5, resulting in a payment of \$207.099185020, or \$207.10, for a \$5,000 note. For \$20,000 of these notes, \$41.419837004 would be multiplied by 20, resulting in a payment of \$828.39674008 (\$828.40).

### 4. Long First Payment Period

In cases where the first interest payment period for a fixed-principal security covers more than a full half-year period (a "long coupon"), the daily interest decimal is multiplied by the number of days from, but not including, the issue date to, and including, the last day of the fractional period that ends one full half-year before the interest payment date. That amount is added to the regular interest amount for the full half-year ending on the first interest payment date, resulting in the amount of interest payable for \$1,000 par amount. In cases where the par amount of securities is greater than \$1,000, the appropriate multiple should be applied to

the unrounded interest payment amount for \$1,000 par amount.

*Example.* A 5-year 2-month fixed-principal note paying 7½% interest was issued on December 3, 1990, with the first interest payment due on August 15, 1991. Interest for the regular half-year portion of the payment was computed to be \$39.375 per \$1,000 par amount. The fractional portion of the payment, from December 3 to February 15, fell in a 184-day half-year (August 15, 1990, to February 15, 1991). Accordingly, the daily interest decimal for 7½% was \$0.213994565. This decimal, multiplied by 74 (the number of days from but not including December 3, 1990, to and including February 15), resulted in interest for the fractional portion of \$15.835597810. When added to \$39.375 (the normal interest payment portion ending on August 15, 1991), this produced a first interest payment of \$55.210597810, or \$55.21 per \$1,000 par amount. For \$7,000 par amount of these notes, \$55.210597810 would be multiplied by 7, resulting in an interest payment of \$386.474184670 (\$386.47).

#### B. Treasury Inflation-Indexed Securities

##### 1. Indexing Process

Interest on marketable Treasury inflation-indexed securities is payable on a semi-annual basis. The inflation-indexed securities are issued with a stated rate of interest which remains constant for the term of the particular security. Interest payments are based on the security's inflation-adjusted principal at the time interest is paid. This adjustment is made by multiplying the par amount of the security by the applicable Index Ratio.

$$\text{Ref CPI}_{\text{Date}} = \text{Ref CPI}_M + \frac{t-1}{D} [\text{Ref CPI}_{M+1} - \text{Ref CPI}_M]$$

Where Date = valuation date

D = the number of days in the month in which Date falls

t = the calendar day corresponding to Date

CPI<sub>M</sub> = CPI reported for the calendar month M by the Bureau of Labor Statistics

##### 2. Index Ratio

The numerator of the Index Ratio, the Ref CPI<sub>Date</sub>, is the index number applicable for a specific day, and the denominator of the Index Ratio is the Ref CPI applicable for the original issue date. However, when the dated date is different from the original issue date, the denominator is the Ref CPI applicable for the dated date. The formula for calculating the Index Ratio is:

$$\text{Index Ratio}_{\text{Date}} = \frac{\text{Ref CPI}_{\text{Date}}}{\text{Ref CPI}_{\text{Issue Date}}}$$

Where Date = valuation date

##### 3. Reference CPI

The Ref CPI for the first day of any calendar month is the CPI for the third preceding calendar month. For example, the Ref CPI applicable to April 1 in any year is the CPI for January, which is reported in February. The Ref CPI for any other day of a month is determined by a linear interpolation between the Ref CPI applicable to the first day of the month in which such day falls (in the example, January) and the Ref CPI applicable to the first day of the next month (in the example, February). For purposes of interpolation, calculations with regard to the Ref CPI and the Index Ratio for a specific date will be truncated to six decimal places and rounded to five decimal places such that the Ref CPI and the Index Ratio for that date will be expressed to five decimal places. The formula for the Ref CPI for a specific date is:

Ref CPI<sub>M</sub> = Ref CPI for the first day of the calendar month in which Date falls, e.g.,

Ref CPI<sub>April 1</sub> is the CPI<sub>January</sub>

Ref CPI<sub>M-1</sub> = Ref CPI for the first day of the calendar month immediately following Date

For example, the Ref CPI for April 15, 1996 is calculated as follows:

$$\text{Ref CPI}_{\text{April 15, 1996}} = \text{Ref CPI}_{\text{April 1, 1996}} + \frac{14}{30} [\text{Ref CPI}_{\text{May 1, 1996}} - \text{Ref CPI}_{\text{April 1, 1996}}]$$

Where Date = 30, t = 15

Ref CPI<sub>April 1, 1996</sub> = 154.40, the non-seasonally adjusted CPI-U for January 1996.

Ref CPI<sub>May 1, 1996</sub> = 154.90, the non-seasonally adjusted CPI-U for February 1996.

Putting these values in the equation above:

$$\text{Ref CPI}_{\text{April 15, 1996}} = 154.40 + \frac{14}{30} [154.90 - 154.40] \quad \text{Ref CPI}_{\text{April 15, 1996}} = 154.633333333$$

This value truncated to six decimals is 154.633333; rounded to five decimals it is 154.63333.

To calculate the Index Ratio for April 16, 1996, for an inflation-indexed security issued on April 15, 1996, the Ref CPI<sub>April 16, 1996</sub> must first be calculated. Using the same values in the equation above except that t=16, the Ref CPI<sub>April 16, 1996</sub> is 154.65000.

The Index Ratio for April 16, 1996 is:

$$\text{Index Ratio}_{\text{April 16, 1996}} = 154.65000/154.63333 = 1.000107803.$$

This value truncated to six decimals is 1.000107; rounded to five decimals it is 1.00011.

#### 4. Index Contingencies

If a previously reported CPI is revised, Treasury will continue to use the previously reported CPI in calculating the principal value and interest payments.

If the CPI is rebased to a different year, Treasury will continue to use the CPI based on the base reference period in effect when the security was first issued, as long as that CPI continues to be published.

If, while an inflation-indexed security is outstanding, the applicable CPI is: (1) discontinued, (2) in the judgment of the Secretary, fundamentally altered in a manner materially adverse to the interests of an investor in the security, or (3) in the judgment of the Secretary, altered by legislation or Executive Order in a manner materially adverse to the interests of an investor in the security, Treasury, after consulting with the Bureau of Labor Statistics, or any successor agency, will substitute an appropriate alternative index. Treasury will then notify the public of the substitute index and how it will be applied. Determinations of the Secretary in this regard will be final.

If the CPI for a particular month is not reported by the last day of the following month, the Treasury will announce an index number based on the last twelve-month change in the CPI available. Any calculations of the Treasury's payment obligations on the inflation-indexed security that rely on that month's CPI will be based on the index number that the Treasury has announced. For example, if the CPI for month M is not reported timely, the formula for calculating the index number to be used is:

$$\text{CPI}_M = \text{CPI}_{M-1} \times \left[ \frac{\text{CPI}_{M-1}}{\text{CPI}_{M-13}} \right]^{\frac{1}{12}}$$

Generalizing for the last reported CPI issued N months prior to month M:

$$\text{CPI}_M = \text{CPI}_{M-N} \times \left[ \frac{\text{CPI}_{M-N}}{\text{CPI}_{M-N-12}} \right]^{\frac{N}{12}}$$

If it is necessary to use these formulas to calculate an index number, it will be used for all subsequent calculations that rely on that month's index number and will not be replaced by the actual CPI when it is reported, except for use in the above formulas. When it becomes necessary to use the above formulas to derive an index number, the last CPI that has been reported will be used to calculate CPI numbers for months for which the CPI has not been reported timely.

#### 5. Computation of Interest for a Regular Half-Year Payment Period

Interest on marketable Treasury inflation-indexed securities is payable on a semi-annual basis. The regular interest payment period is a full half-year or six calendar months. Examples of half-year periods are January 15 to July 15, and April 15 to October 15. An interest payment will be a fixed percentage of the value of the inflation-adjusted principal, in current dollars, for the date on which it is paid. Interest payments will be calculated by multiplying one-half of the specified annual interest rate for the inflation-indexed securities by the inflation-adjusted principal for the interest payment date. Specifically, a semiannual interest payment is computed on the basis of one-half of one year's interest regardless of the actual number of days in the half-year.

*Example.* A 10-year inflation-indexed note paying 3% interest was issued on July 15, 1996, with the first interest payment on January 15, 1997. The Ref CPI on July 15, 1996 (Ref CPI<sub>Issue Date</sub>) was 120, and the Ref CPI on January 15, 1997 (Ref CPI<sub>Date</sub>) was 132. For a par amount of \$100,000, the inflation-adjusted principal on January 15, 1997, was  $(132/120) \times \$100,000$ , or \$110,000. This amount was then multiplied by .03/2, or .015, resulting in a payment of \$1,650.00.

*C. Accrued Interest*

Accrued interest will be payable by the purchaser of a Treasury bond or note when interest accrues prior to the issue date of the security. Because the purchaser receives a full interest payment despite having held the security for only a portion of the interest payment period, the Department is compensated through the payment of accrued interest at settlement.

For a fixed-principal security, if accrued interest covers a fractional portion of a full half-year period, the number of days in the full half-year period and the stated interest rate will determine the daily interest decimal to be used in computing the accrued interest. The decimal is multiplied by the number of days for which interest has accrued. If a reopened fixed-principal security has a long first interest payment period (a "long coupon"), and the dated date for the reopened issue is less than six full months before the first interest payment, the accrued interest will fall into two separate half-year periods, and a separate daily interest decimal must be multiplied by the respective number of days in each half-year period during which interest has accrued. All accrued interest computations are rounded to five decimal places for a \$1,000 inflation-adjusted principal, using normal rounding procedures. Accrued interest for a par amount of securities greater than \$1,000 is calculated by applying the appropriate multiple to accrued interest payable for \$1,000 par amount, rounded to five decimal places.

For an inflation-indexed security, accrued interest will be calculated as shown in section III, paragraphs A and B of this appendix.

*Examples.* (1) *Fixed-Principal Securities—(i) Involving One Half-Year:* A bond paying interest at a rate of  $8\frac{3}{4}\%$ , originally issued on August 15, 1990, as a 30-year bond with a first interest payment date of February 15, 1991, was reopened as a 29-year 9-month bond on November 15, 1990. Interest had accrued for 92 days, from August 15 to November 15. The regular interest period from August 15 to February 15, 1991, covered 184 days. Accordingly, the daily interest decimal,  $\$0.237771739$ , multiplied by 92, resulted in accrued interest payable of  $\$21.874999988$ , or  $\$21.87500$ , for each \$1,000 bond purchased. If the bonds have a par amount of \$150,000, then 150 is multiplied by  $\$21.87500$ , resulting in an amount payable of  $\$3,281.25$ .

(ii) *Involving Two Half-Years:* A  $10\frac{3}{4}\%$  bond, originally issued on July 2, 1985, as a 20-year 1-month bond, with a first interest payment date of February 15, 1986, was reopened as a 19-year 10-month bond on November 4, 1985. Interest had accrued for 44 days, from July 2 to August 15, 1985, during a 181-day half-year (February 15 to August 15); and for 81 days, from August 15 to November 4, during a 184-day half-year (August 15, 1985, to February

15, 1986). Accordingly,  $\$0.296961326$  was multiplied by 44, and  $\$0.292119565$  was multiplied by 81, resulting in products of  $\$13.066298344$  and  $\$23.661684765$  which, added together, resulted in accrued interest payable of  $\$36.727983109$ , or  $\$36.72798$ , for each \$1,000 bond purchased. If the bonds have a par amount of \$11,000, then 11 is multiplied by  $\$36.72798$ , resulting in an amount payable of  $\$404.00778$  ( $\$404.01$ ).

## II. FORMULAS FOR CONVERSION OF FIXED-PRINCIPAL SECURITY YIELDS TO EQUIVALENT PRICES

*Definitions*

P=price per 100 (dollars), rounded to three places, using normal rounding procedures

C=the regular annual interest per \$100, payable semiannually, e.g., 10.125 (the dollar equivalent of a  $10\frac{1}{2}\%$  interest rate)

i=nominal annual rate of return or yield to maturity, based on semiannual interest payments and expressed in decimals, e.g., .0719

n=number of full semiannual periods from the issue date to maturity, except that, if the issue date is a coupon frequency date, n will be one less than the number of full semiannual periods remaining to maturity. Coupon frequency dates are the two semiannual dates based on the maturity date of each note or bond issue. For example, a security maturing on November 15, 1995, would have coupon frequency dates of May 15 and November 15.

r=(1) number of days from the issue date to the first interest payment (regular or short first payment period), or (2) number of days in fractional portion (or "initial short period") of long first payment period

s=(1) number of days in the full semiannual period ending on the first interest payment date (regular or short first payment period), or (2) number of days in the full semiannual period in which the fractional portion of a long first payment period falls, ending at the onset of the regular portion of the first interest payment

$v^n = 1/[1+(i/2)]^n$ =present value of 1 due at the end of n periods

$a_n = (1 - v^n)/(i/2) = v + v^2 + v^3 + \dots + v^n$ =present value of 1 per period for n periods

A=accrued interest

A. *For fixed-principal securities with a regular first interest payment period:*

Formula:

$$P[1+(r/s)(i/2)] = (C/2)(r/s) + (C/2)a_n + 100 v^n$$

Example:

For an  $8\frac{3}{4}\%$  30-year bond, issued May 15, 1990, due May 15, 2020, with interest payments on November 15 and May 15, solve for the price per 100 (P) at a yield of 8.84%.

Definitions:

C=8.75

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$i=.0884$   
 $r=184$  (May 15 to November 15, 1990)  
 $s=184$  (May 15 to November 15, 1990)  
 $n=59$  (There are 60 full semiannual periods, but  $n$  is reduced by 1 because the issue date is a coupon frequency date.)  
 $v^n=1/[(1+.0884/2)]^{59}$ , or .077940  
 $a_n=(1-.077940)/.0442$ , or 20.861086

Resolution:

$P[1+(r/s)(i/2)]=(C/2)(r/s)+(C/2)a_n+100 v^n$  or  
 $P[1+(184/184)(.0884/2)]=(8.75/2)(184/184)+(8.75/2)(20.861086)+100(.077940)$   
 (1)  $P[1+.0442]=4.375+91.267251+7.7940$   
 (2)  $P[1.0442]=103.436251$   
 (3)  $P=103.436251+1.0442$   
 (4)  $P=99.057892$   
 (5)  $P=99.058$

*B. For fixed-principal securities with a short first interest payment period:*

Formula:

$P[1+(r/s)(i/2)]=(C/2)(r/s)+(C/2)a_n+100 v^n$

Example:

For an 8½% 2-year note, issued April 2, 1990, due March 31, 1992, with interest payments on September 30 and March 31, solve for the price per 100 ( $P$ ) at a yield of 8.59%.

Definitions:

$C=8.50$   
 $i=.0859$   
 $n=3$   
 $r=181$  (April 2 to September 30, 1990)  
 $s=183$  (March 31 to September 30, 1990)  
 $v^n=1/[(1+.0859/2)]^3$ , or .881474  
 $a_n=(1-.881474)/.04295$ , or 2.759627

Resolution:

$P[1+(r/s)(i/2)]=(C/2)(r/s)+(C/2)a_n+100 v^n$  or  
 $P[1+(181/183)(.0859/2)]=(8.50/2)(181/183)+(8.50/2)(2.759627)+100(.881474)$   
 (1)  $P[1+.042481]=4.203552+11.728415+88.1474$   
 (2)  $P[1.042481]=104.079367$   
 (3)  $P=104.079367+1.042481$   
 (4)  $P=99.838143$   
 (5)  $P=99.838$

*C. For fixed-principal securities with a long first interest payment period:*

Formula:

$P[1+(r/s)(i/2)]=[(C/2)(r/s)]v+(C/2)a_n+100 v^n$

Example:

For an 8½% 5-year 2-month note, issued March 1, 1990, due May 15, 1995, with interest payments on November 15 and May 15 (first payment on November 15, 1990), solve for the price per 100 ( $P$ ) at a yield of 8.53%.

Definitions:

$C=8.50$   
 $i=.0853$   
 $n=10$   
 $r=75$  (March 1 to May 15, 1990, which is the fractional portion of the first interest payment)  
 $s=181$  (November 15, 1989, to May 15, 1990)  
 $v^n=1/[(1+.0853/2)]^{10}$ , or .658589

$a_n=(1-.658589)/.04265$ , or 8.004947

Resolution:

$P[1+(r/s)(i/2)]=[(C/2)(r/s)]v+(C/2)a_n+100 v^n$  or  
 $P[1+(75/181)(.0853/2)]=[(8.50/2)(75/181)]$   
 $.959095+(8.50/2)(8.004947)+100(.658589)$   
 (1)  $P[1+.017673]=1.689014+34.021025+65.8589$   
 (2)  $P[1.017673]=101.568939$   
 (3)  $P=101.568939+1.017673$   
 (4)  $P=99.805084$   
 (5)  $P=99.805$

*D. (1) For fixed-principal securities reopened during a regular interest period where the purchase price includes predetermined accrued interest.*

*(2) For new fixed-principal securities accruing interest from the coupon frequency date immediately preceding the issue date, with the interest rate established in the auction being used to determine the accrued interest payable on the issue date.*

Formula:

$(P+A)[1+(r/s)(i/2)]=C/2+(C/2)a_n+100 v^n$

Where:  $A=[(s-r)/s](C/2)$

Example:

For a 9½% 10-year note, interest accruing from November 15, 1985, issued November 29, 1985, due November 15, 1995, with interest payments on May 15 and November 15, solve for the price per 100 ( $P$ ) at a yield of 9.54%. Accrued interest is from November 15 to November 29 (14 days).

Definitions:

$C=9.50$   
 $i=.0954$   
 $n=19$   
 $r=167$  (November 29, 1985, to May 15, 1986)  
 $s=181$  (November 15, 1985, to May 15, 1986)  
 $v^n=1/[(1+.0954/2)]^{19}$ , or .412570400  
 $a_n=(1-.412570)/.0477$ , or 12.315094  
 $A=[181-167]/181(9.50/2)$ , or .367403

Resolution:

$(P+A)[1+(r/s)(i/2)]=C/2+(C/2)a_n+100 v^n$  or  
 $(P+.367403)[1+(167/181)(.0954/2)]=(9.50/2)+(9.50/2)(12.315094)+100(.412570)$   
 (1)  $(P+.367403)[1+.044011]=4.75+58.496697+41.2570$   
 (2)  $(P+.367403)[1.044011]=104.503697$   
 (3)  $(P+.367403)=104.503697+1.044011$   
 (4)  $(P+.367403)=100.098272$   
 (5)  $P=100.098272-.367403$   
 (6)  $P=99.730869$   
 (7)  $P=99.731$

*E. For fixed-principal securities reopened during the regular portion of a long first payment period:*

Formula:

$(P+A)[1+(r/s)(i/2)]=(r'/s')(C/2)+C/2+(C/2)a_n+100 v^n$

Where:

$A=AI'+AI$   
 $AI'=(r'/s')(C/2)$   
 $AI=[(s-r)/s](C/2)$   
 and

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r=number of days from the reopening date to the first interest payment date  
s=number of days in the semiannual period for the regular portion of the first interest payment period  
r'=number of days in the fractional portion (or "initial short period") of the first interest payment period  
s'=number of days in the semiannual period ending with the commencement date of the regular portion of the first interest payment period

### Example:

A 10¾% 19-year 9-month bond due August 15, 2005, is issued on July 2, 1985, and reopened on November 4, 1985, with interest payments on February 15 and August 15 (first payment on February 15, 1986), solve for the price per 100 (P) at a yield of 10.47%. Accrued interest is calculated from July 2 to November 4.

### Definitions:

C=10.75

i=.1047

n=39

r=103 (November 4, 1985, to February 15, 1986)

s=184 (August 15, 1985, to February 15, 1986)

r'=44 (July 2 to August 15, 1985)

s'=181 (February 15 to August 15, 1985)

$v^n = 1/[(1+.1047/2)]^{39}$ , or .136695

$a_n = (1 - .136695)/.05235$ , or 16.491022

$AI' = (44/181)(10.75/2)$ , or 1.306630

$AI' = [(184 - 103)/184](10.75/2)$ , or 2.366168

$A = AI' + AI$ , or 3.672798

### Resolution:

$(P+A)[1+(r/s)(i/2)] = (r'/s)(C/2) + C/2 + (C/2)a_n + 100v^n$  or

$(P+3.672798)[1+(103/184)(.1047/2)] = (44/181)(10.75/2) + 10.75/2 + (10.75/2)(16.491022) + 100(.136695)$

(1)  $(P+3.672798)[1+.029305] = 1.306630 + 5.375 + 88.639243 + 13.6695$

(2)  $(P+3.672798)[1.029305] = 108.990373$

(3)  $(P+3.672798) = 108.990373 + 1.029305$

(4)  $(P+3.672798) = 105.887344$

(5)  $P = 105.887344 - 3.672798$

(6)  $P = 102.214546$

(7)  $P = 102.215$

### F. For fixed-principal securities reopened during a short first payment period:

#### Formula:

$(P+A)[1+(r/s)(i/2)] = (r'/s)(C/2) + (C/2)a_n + 100v^n$

#### Where:

$A = [(r' - r)/s](C/2)$

#### and

r'=number of days from the original issue date to the first interest payment date

### Example:

For a 10½% 8-year note due May 15, 1991, originally issued on May 16, 1983, and reopened on August 15, 1983, with interest payments on November 15 and May 15 (first payment on November 15, 1983), solve for the price per 100 (P) at a yield of 10.53%. Accrued

interest is calculated from May 16 to August 15.

### Definitions:

C=10.50

i=.1053

n=15

r=92 (August 15, 1983, to November 15, 1983)

s=184 (May 15, 1983, to November 15, 1983)

r'=183 (May 16, 1983, to November 15, 1983)

$v^n = 1/[(1+.1053/2)]^{15}$ , or .463170

$a_n = (1 - .463170) / .05265$ , or 10.196201

$A = [(183 - 92) / 184](10.50/2)$ , or 2.596467

### Resolution:

$(P+A)[1+(r/s)(i/2)] = (r'/s)(C/2) + (C/2)a_n + 100v^n$  or

$(P+2.596467)[1+(92/184)(.1053/2)] = (183/184)(10.50/2) + (10.50/2)(10.196201) + 100(.463170)$

(1)  $(P+2.596467)[1+.026325] = 5.221467 + 53.530055 + 46.3170$

(2)  $(P+2.596467)[1.026325] = 105.068522$

(3)  $(P+2.596467) + 105.068522 = 1.026325$

(4)  $(P+2.596467) = 102.373539$

(5)  $P = 102.373539 - 2.596467$

(6)  $P = 99.777072$

(7)  $P = 99.777$

### G. For fixed-principal securities reopened during the fractional portion (initial short period) of a long first payment period:

#### Formula:

$(P+A)[1+(r/s)(i/2)] = [(r'/s)(C/2)]v + (C/2)a_n + 100v^n$

#### Where:

$A = [(r' - r)/s](C/2)$

#### and

r=number of days from the reopening date to the end of the short period

r'=number of days in the short period

s=number of days in the semiannual period ending with the end of the short period

### Example:

For a 9¾% 6-year 2-month note due December 15, 1994, originally issued on October 15, 1988, and reopened on November 15, 1988, with interest payments on June 15 and December 15 (first payment on June 15, 1989), solve for the price per 100 (P) at a yield of 9.79%. Accrued interest is calculated from October 15 to November 15.

### Definitions:

C=9.75

i=.0979

n=12

r=30 (November 15, 1988, to December 15, 1988)

s=183 (June 15, 1988, to December 15, 1988)

r'=61 (October 15, 1988, to December 15, 1988)

$v = 1/(1+.0979/2)$ , or .953334

$v^n = [1/(1+.0979/2)]^{12}$ , or .563563

$a_n = (1 - .563563) / .04895$ , or 8.915975

$A = [(61 - 30)/183](9.75/2)$ , or .825820

### Resolution:

$(P+A)[1+(r/s)(i/2)] = [(r'/s)(C/2)]v + (C/2)a_n + 100v^n$  or

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$(P+.825820)[1+(30/183)(.0979/2)]=[(61/183)(9.75/2)](.953334)+(9.75/2)(8.915975)+100(.563563)$   
 (1)  $(P+.825820)[1+.008025]=$   
 $1.549168+43.465378+56.3563$   
 (2)  $(P+.825820)[1.008025]=101.370846$   
 (3)  $(P+.825820)=101.370846+1.008025$   
 (4)  $(P+.825820)=100.563821$   
 (5)  $P=100.563821-.825820$   
 (6)  $P=99.738001$   
 (7)  $P=99.738$

**III. FORMULAS FOR CONVERSION OF INFLATION-INDEXED SECURITY YIELDS TO EQUIVALENT PRICES**

*Definitions*

P = unadjusted or real price per 100 (dollars)  
 $P_{adj}$  = inflation adjusted price;  $P \times \text{Index Ratio}_{Date}$   
 A = unadjusted accrued interest per \$100 original principal  
 $A_{adj}$  = inflation adjusted accrued interest;  $A \times \text{Index Ratio}_{Date}$   
 SA = settlement amount including accrued interest in current dollars per \$100 original principal;  $P_{adj} + A_{adj}$   
 r = days from settlement date to next coupon date  
 s = days in current semiannual period  
 i = real yield, expressed in decimals (e.g., 0.0325)  
 C = real annual coupon, payable semiannually, in terms of real dollars paid on \$100 initial, or real, principal of the security  
 n = number of full semiannual periods from issue date to maturity date, except that, if

the issue date is a coupon frequency date, n will be one less than the number of full semiannual periods remaining until maturity. Coupon frequency dates are the two semiannual dates based on the maturity date of each note or bond issue. For example, a security maturing on July 15, 2026 would have coupon frequency dates of January 15 and July 15.

$v^n = 1/(1 + i/2)^n$  = present value of 1 due at the end of n periods

$a_n = (1 - v^n)/(i/2) = v + v^2 + v^3 + \dots + v^n$   
 = present value of 1 per period for n periods

Date = valuation date

D = the number of days in the month in which Date falls

t = calendar day corresponding to Date

CPI = Consumer Price Index number

$CPI_M$  = CPI reported for the calendar month M by the Bureau of Labor Statistics

Ref  $CPI_M$  = reference CPI for the first day of the calendar month in which Date falls, e.g., Ref  $CPI_{April}$  is the  $CPI_{January}$

Ref  $CPI_{M=1}$  = reference CPI for the first day of the calendar month immediately following Date

Ref  $CPI_{Date} = \text{Ref } CPI_M + [(t - 1)/D][\text{Ref } CPI_{M=1} - \text{Ref } CPI_M]$

Index Ratio<sub>Date</sub> = Ref  $CPI_{Date}$ /Ref  $CPI_{IssueDate}$

A. For inflation-indexed securities with a regular first interest payment period:

Formulas:

$$P = \frac{(C/2) + (C/2)a_n + 100v^n}{1 + (r/s)(i/2)} - [(s - r)/s](C/2)$$

$P_{adj} = P \times \text{Index Ratio}_{Date}$

$A = [(s - r)/s] \times (C/2)$

$A_{adj} = A \times \text{Index Ratio}_{Date}$

$SA = P_{adj} + A_{adj}$

Index Ratio<sub>Date</sub> = Ref  $CPI_{Date}$ /Ref  $CPI_{IssueDate}$

*Example.* The Treasury issues a 10-year inflation-indexed note on July 15, 1996. The note is issued at a discount to yield 3.1% (real). The note bears a 3% real coupon, payable on January 15 and July 15 of each year. The base CPI index applicable to this note is 120.<sup>1</sup> Calculate the settlement amount.

Definitions:

C = 3.00

i = 0.0310

n = 19 (There are 20 full semiannual periods but n is reduced by 1 because the issue date is a coupon frequency date.)

r = 184 (July 15, 1996 to January 15, 1997)

s = 184 (July 15, 1996 to January 15, 1997)

Ref  $CPI_{Date} = 120$

Ref  $CPI_{IssueDate} = 120$

Resolution:

Index Ratio<sub>Date</sub> = Ref  $CPI_{Date}$ /Ref  $CPI_{IssueDate} = 120/120 = 1$

$A = [(184 - 184)/184] \times 3/2 = 0$

$A_{adj} = 0 \times 1 = 0$

$v^n = 1/(1 + i/2)^n = 1/(1 + .031/2)^{19} = 0.74658863$

$a_n = (1 - v^n)/(i/2) = (1 - 0.74658863)/(.031/2) = 16.34912065$

<sup>1</sup>This number is normally derived using the interpolative process described in appendix B, section I, paragraph B.

$$P = \frac{(C/2) + (C/2)a_{n|} + 100v^n}{1 + (r/s)(i/2)} - [(s-r)/s](C/2)$$

$$P = \frac{(3/2) + (3/2)(16.34912065) + 100(0.74658863)}{1 + (184/184)(0.031/2)} - [(184 - 184)/184](3/2)$$

$$P = \frac{1.5 + 24.52368098 + 74.658863}{1.01550000} - 0$$

$$P = \frac{100.68254398}{1.01550000}$$

$$P = 99.145784$$

$$P = 99.146$$

$$P_{\text{adj}} = P \times \text{Index Ratio}_{\text{Date}}$$

$$P_{\text{adj}} = 99.146 \times 1 = 99.146$$

$$SA = P_{\text{adj}} + A_{\text{adj}};$$

$$SA = 99.146 + 0 = 99.146$$

NOTE: For the real price (P), Treasury has rounded to three places. These amounts are based on 100 par value.

B. For inflation-indexed securities reopened during a regular interest period where the purchase price includes predetermined accrued interest:

Bidding:

The dollar amount of each bid is in terms of the par amount. For example, if the Ref CPI applicable to the issue date of the note is 120, and the reference CPI applicable to the reopening issue date is 132, a bid of \$10,000 will in effect be a bid of \$10,000 × (132/120), or \$11,000.

Formulas:

$$P = \frac{(C/2) + (C/2)a_{n|} + 100v^n}{1 + (r/s)(i/2)} - [(s-r)/s](C/2)$$

$$P_{\text{adj}} = P \times \text{Index Ratio}_{\text{Date}}$$

$$A = [(s-r)/s] \times (C/2)$$

$$A_{\text{adj}} = A \times \text{Index Ratio}_{\text{Date}}$$

$$SA = P_{\text{adj}} + A_{\text{adj}}$$

$$\text{Index Ratio}_{\text{Date}} = \text{Ref CPI}_{\text{Date}} / \text{Ref CPI}_{\text{Issue Date}}$$

*Example.* A 3% 10-year inflation-indexed note was issued July 15, 1996, due July 15, 2006, with interest payments on January 15 and July 15. For a reopening on April 15, 1997, with inflation compensation accruing from July 15, 1996 to April 15, 1997, and accrued interest accruing from January 15, 1997 to April 15, 1997 (90 days), solve for the price per 100 (P) at a real yield, as determined in the reopening auction, of 3.40%. The base index applicable to the issue date of this note is 120 and the reference CPI applicable to April 15, 1997, is 132.

Definitions:

$$C = 3.00$$

$$i = 0.0340$$

$$n = 18$$

$$r = 91 \text{ (April 15, 1997 to July 15, 1997)}$$

$$s = 181 \text{ (January 15, 1997 to July 15, 1997)}$$

$$\text{Ref CPI}_{\text{Date}} = 132$$

$$\text{Ref CPI}_{\text{Issue Date}} = 120$$

Resolution:

$$\text{Index Ratio}_{\text{Date}} = \text{Ref CPI}_{\text{Date}} / \text{Ref CPI}_{\text{Issue Date}} = 132/120 = 1.100$$

$$v^n = 1/(1 + i/2)^n = 1/(1 + .0340/2)^{18} = 0.73828296$$

$$a_{n|} = (1 - v^n)/(i/2) = (1 - 0.73828296)/(0.0340/2) = 15.39512000$$



$$P = \frac{(C/2) + (C/2)a_{\overline{n}|i} + 100v^n}{1 + (r/s)(i/2)} - [(s-r)/s](C/2)$$

$$P = \frac{(3/2) + (3/2)(15.39512000) + 100(0.73828296)}{1 + (91/181)(0.0340/2)} - [(181 - 91)/181](3/2)$$

$$P = \frac{1.5 + 23.09268 + 73.828296}{1.00854696} - (90/181)(1.5)$$

$$P = \frac{98.420976}{1.00854696} - 0.745856$$

$$P = 97.586905 - 0.745856$$

$$P = 96.841049$$

$$P = 96.841$$

$$P_{\text{adj}} = P \times \text{Index Ratio}_{\text{Date}}$$

$$P_{\text{adj}} = 96.841 \times 1.100 = 106.5251$$

$$P_{\text{adj}} = 106.525$$

$$A = [(181 - 91)/181] \times 3/2 = 0.745856$$

$$A_{\text{adj}} = A \times \text{Index Ratio}_{\text{Date}}$$

$$A_{\text{adj}} = 0.745856 \times 1.100 = 0.820442$$

$$SA = P_{\text{adj}} + A_{\text{adj}} = 106.525 + 0.820442$$

$$SA = 107.345442$$

NOTE: For the real price (P), and the inflation-adjusted price ( $P_{\text{adj}}$ ), Treasury has rounded to three places. For accrued interest (A) and adjusted accrued interest ( $A_{\text{adj}}$ ), Treasury has rounded to six places. These amounts are based on 100 par value.

#### IV. COMPUTATION OF ADJUSTED VALUES AND PAYMENT AMOUNTS FOR STRIPPED INFLATION-INDEXED INTEREST COMPONENTS

NOTE: Valuing an interest component stripped from an inflation-indexed security at its adjusted value enables this interest component to be interchangeable (fungible) with other interest components that have the same maturity date, regardless of the underlying inflation-indexed security from which the interest components were stripped. The adjusted value provides for fungibility of these various interest components when buying, selling, or transferring them, or when reconstituting an inflation-indexed security.

##### DEFINITIONS

C=the regular annual interest rate, payable semiannually, e.g., .03625 (the decimal equivalent of a 3-5/8% interest rate)

Par=par amount of the security to be stripped

Ref CPI<sub>Issue Date</sub>=reference CPI for the original issue date (or dated date, when the dated date is different from the original issue date) of the underlying (unstripped) security

Ref CPI<sub>Date</sub>=reference CPI for the maturity date of the interest component

AV=adjusted value of the interest component

PA=payment amount at maturity by Treasury

##### FORMULAS

AV=Par (C/2)(100/Ref CPI<sub>Issue Date</sub>) (rounded to 2 decimals with no intermediate rounding)

PA=AV (Ref CPI<sub>Date</sub>/100) (rounded to 2 decimals with no intermediate rounding)

Example. A 10-year inflation-indexed note paying 3½% interest is issued on January 15, 1999, with the second interest payment on January 15, 2000. The Ref CPI on January 15, 1999 (Ref CPI<sub>Issue Date</sub>) is 174.62783, and the Ref CPI on January 15, 2000 (Ref CPI<sub>Date</sub>) is 179.86159. Calculate the adjusted value and the payment amount at maturity of the interest component.

##### DEFINITIONS

C=.035

Par=\$1,000,000

Ref CPI<sub>Issue Date</sub>=174.62783

Ref CPI<sub>Date</sub>=179.86159

##### RESOLUTION

For a par amount of \$1 million, the adjusted value of each stripped interest component is \$1,000,000 (.035/2)(100/174.62783), or \$10,021.31 (no intermediate rounding).

For an interest component maturing on January 15, 2000, the payment amount is \$10,021.31 (179.86159/100), or \$18,024.49 (no intermediate rounding).

#### V. COMPUTATION OF PURCHASE PRICE, DISCOUNT RATE, AND INVESTMENT RATE (COUPON-EQUIVALENT YIELD) FOR TREASURY BILLS

A. *Conversion of the discount rate to a purchase price for Treasury bills of all maturities:*

Formula:

$$P=100 [(1 - dr)/360]$$

Where:

d=discount rate, in decimals

r=number of days remaining to maturity

P=price per 100 (dollars)

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Example:

For a bill issued November 24, 1989, due February 22, 1990, at a discount rate of 7.61%, solve for price per 100 (P).

Definitions:

d=.0761

r=90 (November 24, 1989 to February 22, 1990)

Resolution:

$P=100 [(1 - dr)/360]$

(1)  $P=100 [1 - (.0761)(90)/360]$

(2)  $P=100 (1 - .019025)$

(3)  $P=100 (.980975)$

(4)  $P=98.0975$

(5)  $P=98.098$

NOTE: Purchase prices per \$100 are rounded to three decimal places, using normal rounding procedures.

B. *Computation of purchase prices and discount amounts based on price per \$100, for Treasury bills of all maturities:*

1. To determine the purchase price of any bill, divide the par amount by 100 and multiply the resulting quotient by the price per \$100.

*Example.* To compute the purchase price of a \$10,000 13-week bill sold at a price of \$98.098 per \$100, divide the par amount (\$10,000) by 100 to obtain the multiple (100). That multiple times 98.098 results in a purchase price of \$9,809.80.

2. To determine the discount amount for any bill, subtract the purchase price from the par amount of the bill.

*Example.* For a \$10,000 bill with a purchase price of \$9,809.80, the discount amount would be \$190.20, or \$10,000 - \$9,809.80.

C. *Conversion of prices to discount rates for Treasury bills of all maturities:*

Formula:

$$d = \left[ \frac{100 - P}{100} \times \frac{360}{r} \right]$$

Where:

P=price per 100 (dollars)

d=discount rate

r=number of days remaining to maturity

Example:

For a 26-week bill issued December 30, 1982, due June 30, 1983, with a price of \$95.930, solve for the discount rate (d).

Definitions:

P=95.930

r=182 (December 30, 1982, to June 30, 1983)

Resolution:

$$d = \left[ \frac{100 - P}{100} \times \frac{360}{r} \right]$$

$$d = \left[ \frac{100 - 95.930}{100} \times \frac{360}{182} \right] \quad (1)$$

(2)  $d=[.0407 \times 1.978022]$

(3)  $d=.080506$

(4)  $d=8.051\%$

NOTE: Prior to April 18, 1983, all bills were sold in price-basis auctions, in which discount rates calculated from prices were rounded to three places, using normal rounding procedures. Since that time, all bills have been sold only on a discount rate basis. For regular Treasury bills—13-, 26-, and 52-week bills—discount rates bid were submitted with two decimals in increments of .01 percent, e.g., 5.32, until 1997, when Treasury instituted a change to three decimal bidding in increments of .005 percent, e.g., 5.320 or 5.325.

D. *Calculation of investment rate (coupon-equivalent yield) for Treasury bills:*

1. For bills of not more than one half-year to maturity:

Formula:

$$i = \left[ \frac{100 - P}{P} \times \frac{y}{r} \right]$$

Where:

i=investment rate, in decimals

P=price per 100 (dollars)

r=number of days remaining to maturity

y=number of days in year following the issue date; normally 365 but, if the year following the issue date includes February 29, then y is 366.

Example:

For a cash management bill issued June 1, 1990, due June 21, 1990, with a price of \$99.559 (computed from a discount rate of 7.93%), solve for the investment rate (i).

Definitions:

P=99.559

r=20 (June 1, 1990, to June 21, 1990)

y=365

Resolution:

$$i = \left[ \frac{100 - P}{P} \times \frac{y}{r} \right]$$

$$(1) \quad i = \left[ \frac{100 - 99.559}{99.559} \times \frac{365}{20} \right]$$

$$(2) \quad i = [.004430 \times 18.25]$$

$$(3) \quad i = .080848$$

$$(4) \quad i = 8.08\%$$

$$(2) \quad i = [.004430 \times 18.25]$$

$$(3) \quad i = .080848$$

$$(4) \quad i = 8.08\%$$

2. For bills of more than one half-year to maturity:

Formula:  $P[1 + (r - y/2)(i/y)](1 + i/2) = 100$

This formula must be solved by using the quadratic equation, which is:

$$ax^2 + bx + c = 0$$

Therefore, rewriting the bill formula in the quadratic equation form gives:

$$\left[ \frac{r}{2y} - .25 \right] i^2 + \left( \frac{r}{y} \right) i + \left( \frac{P - 100}{P} \right) = 0$$

$$i = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

$$(1) \quad i = \frac{-.997260 + \sqrt{(.997260)^2 - 4[(.24863)(-.083835)]}}{2(.248630)}$$

$$(2) \quad i = \frac{-.997260 + \sqrt{.994528 + .083376}}{.497260}$$

$$(3) \quad i = (-.997260 + 1.038222)/.497260$$

$$(4) \quad i = .040962/.497260$$

$$(5) \quad i = .082375 \text{ or}$$

$$(6) \quad i = 8.24\%$$

[58 FR 414, Jan. 5, 1993, as amended at 62 FR 854, 855, 864, 866, Jan. 6, 1997; 62 FR 43094, Aug. 12, 1997; 63 FR 35784, June 30, 1998; 64 FR 3634, Jan. 25, 1999]

and solving for "i" produces:

$$i = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

Where:

i=investment rate in decimals

b=r/y

a=(r/2y) - .25

c=(P - 100)/P

P=price per 100 (dollars)

r=number of days remaining to maturity

y=number of days in year following the issue date; normally 365, but if the year following the issue date includes February 29, then y is 366.

Example:

For a 52-week bill issued June 7, 1990, due June 6, 1991, with a price of \$92.265 (computed from a discount rate of 7.65%), solve for the investment rate (i).

Definitions:

r=364 (June 7, 1990, to June 6, 1991)

y=365

P=92.265

b=364/365, or .997260

a=(364/730) - .25, or .24863

c=(92.265 - 100)/92.265, or -.083835

Resolution:

## APPENDIX C TO PART 356—INVESTMENT CONSIDERATIONS

### I. INFLATION-INDEXED SECURITIES

#### A. Principal and Interest Variability

An investment in securities with principal or interest determined by reference to an inflation index involves factors not associated with an investment in a fixed-principal security. Such factors may include, without limitation, the possibility that the inflation index may be subject to significant changes, that changes in the index may or may not correlate to changes in interest rates generally or with changes in other indices, that the resulting interest may be greater or less than that payable on other securities of

similar maturities, and that, in the event of sustained deflation, the amount of the semi-annual interest payments, the inflation-adjusted principal of the security, and the value of stripped components, will decrease. However, if at maturity the inflation-adjusted principal is less than a security's par amount, an additional amount will be paid at maturity so that the additional amount plus the inflation-adjusted principal equals the par amount. Regardless of whether or not such an additional amount is paid, interest payments will always be based on the inflation-adjusted principal as of the interest payment date. If a security has been stripped, any such additional amount will be paid at maturity to holders of principal components only. (See § 356.30.)

#### *B. Trading in the Secondary Market*

The Treasury securities market is the largest and most liquid securities market in the world. While Treasury expects that there will be an active secondary market for inflation-indexed securities, that market initially may not be as active or liquid as the secondary market for Treasury fixed-principal securities. In addition, as a new product, inflation-indexed securities may not be as widely traded or as well understood as Treasury fixed-principal securities. Lesser liquidity and fewer market participants may result in larger spreads between bid and asked prices for inflation-indexed securities than the bid-asked spreads for fixed-principal securities with the same time to maturity. Larger bid-asked spreads normally result in higher transaction costs and/or lower overall returns. The liquidity of an inflation-indexed security may be enhanced over time as Treasury issues additional amounts or more entities participate in the market.

#### *C. Tax Considerations*

Treasury inflation-indexed securities and the stripped interest and principal components of these securities are subject to specific tax rules provided by Treasury regulations issued under sections 1275(d) and 1286 of the Internal Revenue Code of 1986, as amended.

#### *D. Indexing Issues*

While the CPI measures changes in prices for goods and services, movements in the CPI that have occurred in the past are not necessarily indicative of changes that may occur in the future.

The calculation of the index ratio incorporates an approximate three-month lag, which may have an impact on the trading price of the securities, particularly during periods of significant, rapid changes in the index.

The CPI is reported by the Bureau of Labor Statistics, a bureau within the Department of Labor. The Bureau of Labor Statistics operates independently of the Treasury and, therefore, Treasury has no control over the determination, calculation, or publication of the index. For a discussion of how the CPI will be applied in various situations, see appendix B, section I, paragraph B. In addition, for a discussion of actions that Treasury would take in the event the CPI is: discontinued; in the judgment of the Secretary, fundamentally altered in a manner materially adverse to the interests of an investor in the security; or, in the judgment of the Secretary, altered by legislation or Executive Order in a manner materially adverse to the interests of an investor in the security, see appendix B, section I, paragraph B.4.

[62 FR 873, Jan. 6, 1997]

### APPENDIX D TO PART 356—DESCRIPTION OF THE CONSUMER PRICE INDEX

The Consumer Price Index ("CPI") for purposes of inflation-indexed securities is the non-seasonally adjusted *U.S. City Average All Items Consumer Price Index for All Urban Consumers*, published monthly by the Bureau of Labor Statistics of the Department of Labor. The CPI is a measure of the average change in consumer prices over time in a fixed market basket of goods and services, including food, clothing, shelter, fuels, transportation, charges for doctors' and dentists' services, and drugs.

In calculating the index, price changes for the various items are averaged together with weights that represent their importance in the spending of urban households in the United States. The contents of the market basket of goods and services and the weights assigned to the various items are updated periodically to take into account changes in consumer expenditure patterns.

The CPI is expressed in relative terms in relation to a time base reference period for which the level is set at 100. For example, if the CPI for the 1982-84 reference period is 100.0, an increase of 16.5 percent from that period would be shown as 116.5. The CPI for a particular month is released and published during the following month. From time to time, the CPI is rebased to a more recent base reference period. The base reference period for a particular inflation-indexed security will be provided on the offering announcement for that security.

Further details about the CPI may be obtained by contacting the Bureau of Labor Statistics.

[62 FR 873, Jan. 6, 1997]

EXHIBIT A TO PART 356—SAMPLE ANNOUNCEMENTS OF TREASURY OFFERINGS TO THE PUBLIC

- I. Treasury Quarterly Financing Announcement.
- II. Treasury Weekly Bill Announcement.
- III. Treasury Cash Management Bill Announcement.
- IV. Treasury Inflation-Indexed Note Announcement.

I. TREASURY QUARTERLY FINANCING ANNOUNCEMENT

For release when authorized at press conference February 5, 20XX  
Contact: Office of Financing, 202/XXX-XXXX

*Treasury February Quarterly Financing*

The Treasury will auction \$16,000 million of 5-year notes, \$12,000 million of 10-year notes, and \$10,000 million of 30-year bonds to refund \$26,996 million of publicly-held securities maturing February 15, 20XX, and to raise about \$11,004 million of new cash.

In addition to the public holdings, Government accounts and Federal Reserve Banks, for their own accounts, hold \$1,795 million of the maturing securities, which may be re-

funded by issuing additional amounts of the new securities.

The maturing securities held by the public include \$1,654 million held by Federal Reserve Banks as agents for foreign and international monetary authorities. Amounts bid for these accounts by Federal Reserve Banks will be added to the offering.

All of the auctions being announced today will be conducted in the single-price auction format. All competitive and noncompetitive awards will be at the highest yield of accepted competitive tenders.

The 5-year and 10-year notes and the 30-year bond being offered today are eligible for the STRIPS program.

Tenders will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D.C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular for the Sale and Issue of Marketable Book-Entry Treasury Bills, Notes, and Bonds (31 CFR Part 356, as amended).

Details about the notes and bond are given in the attached offering highlights.

Attachment

HIGHLIGHTS OF TREASURY OFFERINGS TO THE PUBLIC

[February 20XX Quarterly Financing]

Offering Amount .....	\$16,000 million .....	\$12,000 million .....	\$10,000 million.
Description of Offering:			
Term and type of security.	5-year notes .....	10-year notes .....	30 year bonds.
Series .....	U-20XX .....	B-20XX .....	Bonds of February 20XX.
CUSIP number	912827XX X .....	912827XX X .....	912810XX X.
Auction date .....	February 11, 20XX	February 12, 20XX	February 13, 20XX.
Issue date .....	February 18, 20XX	February 18, 20XX	February 18, 20XX.
Dated date .....	February 15, 20XX	February 15, 20XX	February 15, 20XX.
Maturity date .....	February 15, 20XX	February 15, 20XX	February 15, 20XX.
Interest rate .....	Determined based on the highest accepted competitive bid.	Determined based on the highest accepted competitive bid.	Determined based on the highest accepted competitive bid.
Yield .....	Determined at auction.	Determined at auction.	Determined at auction.
Interest payment dates.	August 15 and February 15.	August 15 and February 15.	August 15 and February 15.
Minimum bid amount and multiples.	\$1,000 .....	\$1,000 .....	\$1,000.
Accrued interest payable by investor.	Determined at auction.	Determined at auction.	Determined at auction.
Premium or discount.	Determined at auction.	Determined at auction.	Determined at auction.
STRIPS Information:			
Minimum amount required.	Determined at auction.	Determined at auction.	Determined at auction.
Corpus CUSIP number.	912820XX X .....	912820XX X .....	912803XX X.

## HIGHLIGHTS OF TREASURY OFFERINGS TO THE PUBLIC—Continued

[February 20XX Quarterly Financing]

Due dates and CUSIP numbers for additional TINTs.	Not applicable .....	Not applicable .....	February 15, 20XX—912833 XX X.
The following rules apply to all securities mentioned above:			
Submission of Bids:			
Noncompetitive bids .....	Accepted in full up to \$5,000,000 at the highest accepted yield.		
Competitive bids .....	(1) Must be expressed as a yield with three decimals in increments of .001%, e.g., 7.123%.		
	(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all yields, and the net long position is \$2 billion or greater.		
	(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.		
Maximum Recognized Bid at a Single Yield.	35% of public offering.		
Maximum Award .....	35% of public offering.		
Receipt of Tenders:			
Noncompetitive tenders .....	Prior to 12:00 noon Eastern Standard time on auction day.		
Competitive tenders .....	Prior to 1:00 p.m. Eastern Standard time on auction day.		
Payment Terms .....	By charge to a funds account at a Federal Reserve Bank on issue date, or payment of full par amount with tender. Treasury Direct customers can use the Pay Direct feature which authorizes a charge to their account of record at their financial institution on issue date.		

## II. TREASURY WEEKLY BILL ANNOUNCEMENT

Embargoed Until 2:30 p.m. April 15, 20XX

Contact: Office of Financing, 202/XXX-XXXX

*Treasury Offers 13-Week and 26-Week Bills*

The Treasury will auction two series of Treasury bills totaling approximately \$16,000 million, to refund \$13,469 million of publicly held securities maturing November 19, 1998 and to raise about \$2,531 million of new cash.

In addition to the public holdings, Federal Reserve Banks for their own accounts hold \$7,442 million of the maturing bills, which may be refunded at the highest discount rate of accepted competitive tenders. Amounts issued to these accounts will be in addition to the offering amount.

The maturing bills held by the public include \$1,991 million held by Federal Reserve Banks as agents for foreign and inter-

national monetary authorities, which may be refunded within the offering amount at the highest discount rate of accepted competitive tenders. Additional amounts may be issued for such accounts if the aggregate amount of new bids exceeds the aggregate amount of maturing bills.

The 13- and 26-week bill auctions will be conducted in the single-price auction format.

Tenders for the bills will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D.C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular for the Sale and Issue of Marketable Book-Entry Treasury Bills, Notes, and Bonds (31 CFR Part 356, as amended).

Details about each of the new securities are given in the attached offering highlights. Attachment

## HIGHLIGHTS OF TREASURY OFFERINGS OF BILLS TO BE ISSUED APRIL 24, 20XX

Offering Amount .....	\$8,000 million .....	\$8,000 million.
Description of Offering:		
Term and type of security .....	91-day bill .....	182-day bill.
CUSIP number .....	912795 XX X .....	912795 XX X.
Auction date .....	April 21, 20XX .....	April 21, 20XX.
Issue date .....	April 24, 20XX .....	April 24, 20XX.
Maturity date .....	July 24, 20XX .....	October 23, 20XX.
Original issue date .....	July 25, 20XX .....	April 24, 20XX.
Currently outstanding .....	\$31,725 million .....	

## HIGHLIGHTS OF TREASURY OFFERINGS OF BILLS TO BE ISSUED APRIL 24, 20XX—Continued

Minimum bid amount and multiples ...	\$1,000 .....	\$1,000
The following rules apply to all securities mentioned above:		
Submission of Bids:		
Noncompetitive bids .....	Accepted in full up to \$1,000,000 at the highest discount rate of accepted competitive bids.	
Competitive bids .....	(1) Must be expressed as a discount rate with three decimals in increments of .005%, e.g., 7.100%, 7.105%.	
	(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is \$1 billion or greater.	
	(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.	
Maximum Recognized Bid at a Single Yield .....	35% of public offering.	
Maximum Award:	35% of public offering.	
Receipt of Tenders:		
Noncompetitive tenders .....	Prior to 12:00 noon Eastern Daylight Saving time on auction day	
Competitive tenders .....	Prior to 1:00 p.m. Eastern Daylight Saving time on auction day	
Payment Terms .....	By charge to a funds account at a Federal Reserve Bank on issue date, or payment of full par amount with tender. Treasury Direct customers can use the Pay Direct feature which authorizes a charge to their account of record at their financial institution on issue date.	

III. TREASURY CASH MANAGEMENT BILL  
ANNOUNCEMENT

Embargoed until 2:30 p.m. February 25, 20XX  
Contact: Office of Financing 202/XXX-XXXX

*Treasury to Auction Cash Management Bills*

The Treasury will auction approximately \$23,000 million of 45-day Treasury cash management bills to be issued March 3, 20XX.

Competitive and noncompetitive tenders will be received at all Federal Reserve Banks and Branches. Tenders will *not* be accepted for bills to be maintained on the book-entry records of the Department of the Treasury (Treasury Direct). Tenders will *not* be received at the Bureau of the Public Debt, Washington, D.C.

Additional amounts of the bills may be issued to Federal Reserve Banks as agents for foreign and international monetary au-

thorities at the highest discount rate of accepted competitive tenders.

The 45-day cash management bill will be conducted in the single-price auction format. All competitive and noncompetitive awards will be at the highest discount rate of accepted competitive tenders.

This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular for the Sale and Issue of Marketable Book-Entry Treasury Bills, Notes, and Bonds (31 CFR Part 356, as amended).

NOTE: Competitive bids in cash management bill auctions must be expressed as a discount rate with *two* decimals, e.g., 7.10%.

Details about the new security are given in the attached offering highlights.

Attachment

## HIGHLIGHTS OF TREASURY OFFERING OF 45-DAY CASH MANAGEMENT BILL

Offering Amount .....	\$23,000 million.
Description of Offering:	
Term and type of security .....	45-day Cash Management Bill.
CUSIP number .....	912795 XX X.
Auction date .....	February 27, 20XX.
Issue date .....	March 3, 20XX.
Maturity date .....	April 17, 20XX.

## HIGHLIGHTS OF TREASURY OFFERING OF 45-DAY CASH MANAGEMENT BILL—Continued

Original issue date .....	October 17, 20XX.
Currently outstanding .....	\$24,724 million.
Minimum bid amount and multiples.	\$1,000.
Submission of Bids:	
Noncompetitive bids .....	Accepted in full up to \$1,000,000 at the highest accepted discount rate.
Competitive bids .....	(1) Must be expressed as a discount rate with two decimals in increments of .01%, e.g., 7.12%.
	(2) Net long position for each bidder must be reported when the sum of the total bid amount, at all discount rates, and the net long position is \$1 billion or greater.
	(3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.
Maximum Recognized Bid at a Single Yield.	35% of public offering.
Maximum Award .....	35% of public offering.
Receipt of Tenders:	
Noncompetitive tenders .....	Prior to 11:00 a.m. Eastern Standard time on auction day.
Competitive tenders .....	Prior to 11:30 a.m. Eastern Standard time on auction day.
Payment Terms .....	By charge to a funds account at a Federal Reserve Bank on issue date, or payment of full par amount with tender.

IV. TREASURY INFLATION-INDEXED NOTE  
ANNOUNCEMENT

Embargoed Until 2:30 P.M., October 2, 20XX  
CONTACT: Office of Financing, 202/219-3350

Treasury to Auction \$5,500 Million of 10-Year  
Inflation-Indexed Notes

The Treasury will auction \$5,500 million of 10-year inflation-indexed notes to raise cash. In addition, there is \$7,906 million of publicly-held securities maturing October 15, 20XX.

In addition to the public holdings, Federal Reserve Banks hold \$327 million of the maturing securities for their own accounts, which may be exchanged for additional amounts of the new securities.

The maturing securities held by the public include \$584 million held by Federal Reserve Banks as agents for foreign and international monetary authorities. Amounts bid for these accounts by Federal Reserve Banks will be added to the offering.

The auction will be conducted in the single-price auction format. All competitive and noncompetitive awards will be at the highest yield of accepted competitive tenders.

Tenders will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, D.C. This offering of Treasury securities is governed by the terms and conditions set forth in the Uniform Offering Circular (31 CFR part 356) for the sale and issue by the Treasury to the public of marketable Treasury bills, notes, and bonds.

Details about the new security are given in the attached offering highlights.

Highlights of Treasury Offering to the Public  
of 10-Year Inflation-Indexed Notes to be  
Issued October 15, 20XX

October 2, 20XX

*Offering Amount:* \$5,500 million.

*Description of Offering:*

Term and type of security: 10-year inflation-indexed notes

Series—D-20XX

CUSIP number—912XXX XX X

Auction date—October 9, 20XX

Issue date—October 15, 20XX

Dated date—October 15, 20XX

Maturity date—October 15, 20XX

Interest Rate—Determined based on the highest accepted bid

Real yield—Determined at auction

Interest payment dates: April 15 and October 15.

Minimum bid amount—\$1,000

Multiples—\$1,000

Accrued interest payable by investor: None.

Premium or discount: Determined at auction.

*STRIPS Information:*

Minimum amount required—Determined at auction

Corpus CUSIP number—912XXX XX X

*STRIPS Information:*

Due dates and CUSIP numbers for additional TINs: 912XXX.

April 15, 20XX—XX X

October 15, 20XX—XX X

April 15, 20XX—XX X

October 15, 20XX—XX X

April 15, 20XX—XX X

October 15, 20XX—XX X

April 15, 20XX—XX X

October 15, 20XX—XX X



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April 15, 20XX—XX X  
October 15, 20XX—XX X  
April 15, 20XX—XX X  
October 15, 20XX—XX X  
April 15, 20XX—XX X  
October 15, 20XX—XX X  
April 15, 20XX—XX X  
October 15, 20XX—XX X  
April 15, 20XX—XX X  
October 15, 20XX—XX X  
April 15, 20XX—XX X  
October 15, 20XX—XX X

*Submission of Bids:*

Noncompetitive bids:—Will be accepted in full up to \$5,000,000 at the highest accepted yield.

Competitive bids:

- (1) Must be expressed as a real yield with three decimals, e.g., 3.120%.
- (2) Net long position for each bidder must be reported when the sum of the total bid amount, at all yields, and the net long position is \$ \_\_\_\_\_ billion or greater.
- (3) Net long position must be determined as of one half-hour prior to the closing time for receipt of competitive tenders.

*Maximum Recognized Bid at a Single Yield*—35% of public offering.

*Maximum Award*—35% of public offering.

*Receipt of Tenders:*

Noncompetitive tenders: Prior to 12:00 noon Eastern Daylight Saving time on auction day.

Competitive tenders: Prior to 1:00 p.m. Eastern Daylight Saving time on auction day.

*Payment Terms:* Full payment with tender or by charge to a funds account at a Federal Reserve Bank on issue date.

*Indexing Information:*

CPI Base Reference Period:—19XX-XX

Ref CPI 10/15/20XX:—XXX.XXXXX

[58 FR 414, Jan. 5, 1993, as amended at 62 FR 873, Jan. 6, 1997; 62 FR 43094, Aug. 12, 1997; 64 FR 3634, Jan. 25, 1999]

**EXHIBIT B TO PART 356—SAMPLE  
AUTOCHARGE AGREEMENT TO DE-  
LIVER AND CHARGE FOR SECURITIES  
AWARDED IN DEPARTMENT OF THE  
TREASURY AUCTIONS (SUBMITTER  
AND DEPOSITORY INSTITUTION)**

Federal Reserve Bank of \_\_\_\_\_  
Attention: (Name of Fiscal Officer)  
(Address)  
(Address)

To Whom It May Concern:

I. The depository institution ("DI") and the submitting entity ("Submitter"), as identified below, agree that

(a) The Submitter is authorized to submit tenders to the Federal Reserve Bank of \_\_\_\_\_ ("Bank");

(b) The Bank is authorized to deliver, as provided herein, Treasury securities awarded

to the Submitter through the auction process;

(c) The Bank, or other Federal Reserve Bank identified in Section II below, is authorized to charge the DI's funds account for payment of awarded securities that are delivered by the Bank hereunder. Such charge is to be made at the same time the securities are delivered;

(d) The Submitter [ ] is, [ ] is not authorized to submit TREASURY DIRECT tenders. Where such tenders are authorized, the Bank is instructed to deliver awarded securities to the TREASURY DIRECT Book-Entry System and charge the DI's funds account for the securities delivered; and

(e) The Bank [ ] is, [ ] is not authorized to deliver the awarded securities to the DI's securities account at a Federal Reserve Bank other than the Bank.

The above authorizations apply to:

- [ ] bills
- [ ] notes
- [ ] bonds

II. For securities to be delivered to a Federal Reserve Bank other than the Bank receiving the tender, the Submitter must complete the following:

Awarded securities are to be delivered hereunder by the Bank to the DI's securities account at the Federal Reserve Bank of \_\_\_\_\_.

III. The following wire instructions are to be used by the Bank to deliver securities to the DI:

Wire Instructions: \_\_\_\_\_.

IV. General Provisions.

This agreement is effective on the date it is received by the Bank, although the Bank normally will not act under the agreement until it has acknowledged receipt of such.

The Submitter hereunder is the entity submitting bids to a Bank for its own account or for the account of others. The Submitter is responsible to the Treasury for full payment of all securities awarded, including any securities awarded under customer bids submitted by the Submitter.

Any Federal Reserve Bank identified herein is authorized to act on information in any tender in the name of the Submitter that reasonably appears to be valid and genuine. The DI, by executing this agreement, guarantees the authority and signature of the person signing this agreement on behalf of the Submitter.

This agreement will remain in effect until written notice is received by the Bank from either the DI or the Submitter that the agreement has been terminated, provided that if securities are scheduled to be delivered hereunder, such notice must be received in accordance with the termination procedures hereafter described.

As to termination action by the DI, notice of termination will not be effective unless

## Fiscal Service, Treasury

received in writing by a Fiscal/Securities Department officer by the later of (i) 5 p.m. (the Bank's time) on the business day prior to the issue date of the securities scheduled to be delivered hereunder or (ii) if the submitter has authorized the Bank to advise the DI of securities to be delivered, two hours after such advice is sent by the Bank. Such termination action by the DI shall not affect the Submitter's responsibility to make full payment for the securities awarded. A DI may, at any time, waive in writing its right to terminate hereunder.

As to termination action by the Submitter after an auction but prior to delivery of awarded securities, the written notice of termination will not be effective, and this agreement shall remain in full force and effect, unless the Submitter has provided to the Bank, and the latter has acknowledged, a new autocharge agreement executed by a DI having a funds account at a Federal Reserve Bank.

Written notices to be sent hereunder in connection with the termination of this autocharge agreement shall be sent by either the Submitter or the DI to the Bank authorized to receive tenders hereunder.

In the event that this autocharge agreement is terminated, it is the sole responsibility of the party terminating the agreement to notify the other party hereto.

AGREED TO BY \_\_\_\_\_  
(Full DI Name and ABA #)  
Signature: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

AGREED TO BY \_\_\_\_\_  
(Full name of Submitter)  
Signature: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

ACKNOWLEDGED BY: Federal Reserve  
Bank of \_\_\_\_\_  
('Bank'):  
Signature: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

DI'S SIGNATURE AND WIRE INSTRUCTIONS VERIFIED BY:

(For use only by Federal Reserve Bank named in Section II above)

Signature: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_  
Federal Reserve Bank of \_\_\_\_\_

### Instructions for Completing the Autocharge Agreement

1. DEPOSITORY INSTITUTION: This is the DI whose funds account at a Federal Re-

serve Bank will be debited, under this autocharge agreement, for the price of Treasury securities awarded at auction to the Submitter. Also, this DI must have a book-entry securities account at the Federal Reserve Bank to which securities will be delivered against payment on settlement day pursuant to the autocharge agreement and the Submitter's tender submission.

2. SUBMITTER: The Submitter must identify the full name of the entity that is submitting bids under this autocharge agreement. The name shown on the autocharge agreement should be the same as that appearing on related tender forms.

3. BANK: This is the Federal Reserve Bank to which the Submitter will be submitting tenders in Treasury auctions.

4. SIGNATURE FOR DI: This is the signature of an officer of the DI having authority to enter into or terminate this autocharge agreement, and whose signature is on file at the Federal Reserve Bank where the DI has a funds account.

5. SIGNATURE FOR SUBMITTER: This is the signature of an officer of the Submitter having authority to enter into or terminate the autocharge agreement.

6. SIGNATURE FOR BANK: This is the signature of an officer of the Bank having authority to acknowledge this autocharge agreement.